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AMERICAN
JOURNAL OF INSANITY,
FOR JANUARY, 1886.

ON THE PHYSIOLOGY OF THE BRAIN AND ITS RELATIONS IN HEALTH AND DISEASE TO THE FACULTIES OF THE MIND.*

BY H. A. BUTTOLPH, M. D.,
Short Hills, N. J.

Mr. President and Gentlemen of the Association:

I need not say that in proposing to discuss this subject, I do so with a full appreciation of the inherent difficulties that have heretofore existed, that still remain, and perhaps, that will always attend its investigation.

For long years, for centuries even, the brain was a mystery and a stumbling block to all who attempted to demonstrate its structure or divine its function.

Among the vague impressions of the ancients in regard to it, they held that it was a cold humid mass destined to temper the heat of the heart; that it acted as a sponge, attracting to itself the humidity of the body—that it was an excrescence of the spinal marrow, and acted as a secreting gland.

Without attempting to state the history and progress of more enlightened views in regard to the structure and uses of this most important organ as held by the

* Read before the Association of Medical Superintendents of American Institutions for the Insane, at Saratoga, N. Y., June 17, 1885.

ancients, I come at once to speak of the investigation and views of the representative authors and teachers of the most modern school.

In doing this, however, I reserve to myself the privilege of referring, at a later period, to the brilliant results attained by other investigators, for whose names, characters, labors and discoveries, I have the greatest respect and veneration.

With the object of bringing before the Association a clear and correct statement of the views of the most modern authorities in regard to the regions and parts of the brain, together with their proposed methods for ascertaining its functions, I select as representative authors and teachers on the subject, works by Dr. Alexander Ecker, Professor of Anatomy and Comparative Anatomy in the University of Freiburg, Baden; Dr. J. M. Charcot, Professor in the Faculty of Medicine, Paris; Chief of the Salpêtrière; Member of the Academy of Medicine, &c., &c. Also, Dr. Charles Richet, former Interne of the Hospital of Paris; and Lionel S. Beale, F. R. C. P., London, author of Disease Germs, &c.

To make sure of fairly representing the views of these several authors, I quote in turn from each, in the order of their mention, first, language expressive of sentiments in regard to the brain and the mental faculties; also, descriptive of the methods to be followed in pursuing their investigations. In making quotations from the text, also in remarking thereon, I shall do so as briefly as possible. This I state that members of the Association may not be discouraged at the amount of time taken in the beginning, whatever may occur in the ending of my discourse.

The work of Dr. Ecker is "On the Convolutions of the Human Brain," and consists only of a carefully

prepared topographical description and classification of the convolutions with numerous illustrations. It appears to me as admirably adapted to fulfill the object for which it was intended.

In the introduction the author states, without *explaining* the *grounds* or facts upon which his *opinions* are *based*, that the cortex of the cerebrum, the undoubted material substratum of our mental operations, is not a single organ which is brought into play as a whole, in each and every psychical function, but consists rather of a multitude of mental organs, each of which is subservient to certain intellectual processes, is a conviction which forces itself upon us, almost with the necessity of a claim of reason. The hypothesis set up in opposition to it, of a single organ for the carrying out of the multiplicity of psychical functions would present about an equivalent point of view, to that of "vital force," which has received its *coup de grâce*.

If, however, as we conceive to be an undoubted fact, certain portions of the cortex of the cerebrum subserve certain intellectual processes, the possibility is at once conceded that we shall some day arrive at a complete organography of the surface of the brain—a science of the localization of the psychical functions. Such a one as this—that is to say, a knowledge of the psychical organs of the brain in all their relations—is certainly one of the most important problems for the anatomy and physiology of the next century, the solution of which is destined to bring about no small revolution in psychology.

Here I will observe, that notwithstanding the skill and labor expended by the author in preparing and publishing this excellent work, yet the object in view, that is of localizing the organs of the mental faculties, is admitted to be as yet wholly unaccomplished.

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I next quote from the lectures on Localization in Diseases of the Brain, by J. M. Charcot, Professor in the Faculty of Medicine in Paris; Chief of the Salpêtrière, &c., &c., and translated by E. P. Fowler, M. D., of New York.

The author remarks in his first lecture that long explanations are unnecessary to convey what is meant by *localization* in cerebral physiology and pathology. The term has long since become a common one, and its meaning is well known. I will therefore only remind you, that the principles of cerebral localization rest upon the following propositions: The encephalon does not represent a homogeneous organ, a unit, but rather an association, or a confederation, composed of a certain number of diverse organs. To each of these organs belong distinct physiological properties, functions and faculties. Now, the physiological properties of each one of these parts being known, it becomes possible to deduce therefrom the pathological conditions; this being of course but a greater or less modification of the normal state, and not a result of the intervention of new laws.

We will employ the varied knowledge furnished by normal anatomy and experimental physiology, together with those clinical observations which have been rendered reliable by a methodical and minute examination of organic lesions, and thus endeavor to ascertain on what foundation this proposition rests. The importance and the decisive results which depend on these last named examinations, can not be overestimated. For although normal anatomy and experimental physiology may often suggest the true direction towards localization, still nothing but the actual examination of organic lesions will permit a final decision, and *furnish the proof*, at least so far as concerns the special subject of our studies—man.

This brings us to an examination of the encephalon, under its morphological aspect. It is understood that we do not attempt a rigorous description. I propose only to draw a general outline, a knowledge of which is indispensable to our object. To simplify a very complex situation, I will confine myself to the brain—that is, to that mass of nervous substance composed of two hemispheres, and situated at the superior extremity of what are called the *cerebral peduncles* (crura cerebri.)

The two hemispheres are nearly symmetrical and so nearly identical in their structure that whatever may be said of the one, may, anatomically speaking, apply to the other. Each one is enveloped in a layer of grey substance. The central part is formed by means of a white substance, in which are furrowed the ventricles, and where are also seen, as if locked together, the central ganglionic masses, namely, the *thalami optici* and the *corpora striata.*

A transverse section made to intersect the corpora mammillaria best demonstrates the main features of the reciprocal relations of the central parts.

The author recommends for use the manual of Ecker, before referred to, which, he states, contains good topographical plates, accompanied with a simple nomenclature, together with synonyms; also as an excellent work upon the subject, a thesis by Gromier, written under the inspiration of Paul Broca, and entitled, "Study upon Cerebral Convolution in Man and Monkey, 1874."

Comparative anatomy is also a powerful adjunct in the study of the convolutions. Between the monkey and man, for example, the resemblance is striking as concerns the fundamental convolutions and furrows, and that arrangement which in man is somewhat

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unintelligible, is explained in the brain of the monkey by reason of its greater simplicity.

In a succeeding lecture the author states that the structure of the grey substance in whatever region of the hemispheres, presents certain general characteristics.

All parts of the cortex are composed of essentially the same elements. Each one of the composing elements may present important relative deviations from the standard type, according to the region observed; and in a *regional study* of the grey substance great weight should be given to the different proportions and measure in which these elements are distributed in different parts.

After having examined these components individually, we will investigate as to how they combine to form the grey substance. Our description will commence with those elements which play the principal rôle, that is, those *ganglionic or nerve-cells* which are the special characteristic elements of this region; they are usually called the *pyramidal* cells. Then follows a description in detail, of the forms, sizes and number of cells of which the different regions are composed, and in which they are situated, which is, naturally, one of the steps of the enquiry in regard to the anatomy of the parts.

Still farther on, our author states that our preceding topographical studies make an important step, for they will better enable us to determine the locations, extent and configuration of lesions revealed by autopsy.

It will be remembered that Charcot, like Ecker, the authors first quoted, admits, or rather claims, that the encephalon does not represent an homogeneous organ, a unit, but rather an association or a confederation, composed of a certain number of diverse organs; and that to each of these organs belong distinct physiological properties, functions and faculties.

With these statements of the views of our author, in regard to the physiology of the brain as connected with mental manifestation, the enquiry naturally arises, in what way they are to be established by the methods proposed. These are as stated, first, a carefully made topographical map of the brain; second, pathological enquiries as to the effect of disease in different regions and parts of the organ in connection with various *physiological experiments;* which means the *vivisection* of *animals* and, *particularly*, the *monkey*, as being the nearest approach to the human species.

It is plain, however, that the physiology of the brain consists of many organs for manifesting distinct functions and faculties, and that this can only be established by the use of these methods *conjoined*, if at all, which is doubtful, if not wholly impossible.

Of the first method, or that by mutilation of the brain in living animals, it may be said that the results by different experimenters have been so various and contradictory, that some of the ablest physiologists have regarded it as a highly questionable method. It has been stated by a high authority that four conditions are necessary to its success. Firstly, that the part injured must be a distinct organ with a specific function. Secondly, the part must be cut without involving the disorder of the functions of other parts. Thirdly, that the function of the part must be known; and fourthly, after the operation, the state of these functions must be within the reach of observation.

In the experiments, however, these conditions were not observed, and they were made on the assumption that while *nothing* was known of the functions of the brain, yet experimenters expect to discover the function of mutilated or excised parts by observing the powers which were *not* manifested when they were

injured or destroyed. As well might the working of machinery be observed and tested in connection with the removal of some essential part, as to expect that the brain would be devoid of shock and disorder in such circumstances. The very fact, too, that the organ of no *mental* faculty, but only certain nervous and motor centres of the brain have been localized by this method, (except possibly language,) shows that it has thus far been barren of very important results. Aside from this, it would be quite unnatural to expect to obtain useful information in regard to any but the lowest animal faculties of man from mutilations of the brains of monkeys as proposed.

Richet, author of "Histology and Physiology of the Cerebral Convolutions," states, that in monkeys, even of the highest order, the gorilla for example, the convolutions are very undeveloped as compared with those in men. The latter author farther remarks that a great number of experiments have been made upon the convolutions of mammifera, and that the conclusions are uncertain and obscure, and finally, that there is no region upon the surface of the convolutions especially assigned to intellection.

The same author states, in speaking of modern enquiries in regard to the physiology of the brain, that induction from probabilities, or ill-demonstrated experiments are unreliable; also, that recent labors have been accepted too much to the exclusion or neglect of those further in the past. It is an unfortunate tendency, and one that results in injustice. For example, in the physiological history of the convolutions some of the finest discoveries were made by Flourens. There are few experiments as interesting as that in which the pigeon deprived of its cerebral lobes, sits plunged into a profound sleep of everlasting unconsciousness—and yet, of what *practical* value is such an experiment!

I, however, most fully realize that recent investigators, Fritsche and Hitzig, Ferrier, Charcot and others have made magnificent discoveries; still it is Flourens who stands in the front rank, and it need not be considered that the science of cerebral physiology dates from 1872. Ferrier says: "When we examine the actual facts and records of cerebral disease, we find in apparently similar conditions, so much diversity, that it seems almost impossible, from a clinical point of view, to separate accidental from essential; to distinguish between direct and indirect consequences; or to determine whether phenomena are related by causation, or are mere cases of juxtaposition or co-existence. Nor do the facts of experimental physiology seem so consistent with themselves or with the undoubted facts of clinical research as to inspire us with unhesitating confidence as to their accuracy, or as to their applicability to human pathology."

It is not to be wondered at, therefore, that many should still doubt, and reserve their opinion on this question of the localization of cerebral function and cerebral disease.

Failing to ascertain the *physiology* of a region or part of the brain by vivisection, it would be unreasonable to expect to do so by any *pathological* enquiry alone, as the latter would reveal only the change in the part from a state of healthy action, and not its power for the manifestation of a mental faculty. It will be admitted, however, that the *anatomy* and *physiology* of a part being *definitely known*, all pathological enquiries may become the very best means of verifying a knowledge of the latter.

I now refer to clinical cases by M. Allen Starr, M. D., about one hundred in number, contributed to the *American Journal of the Medical Sciences*, for April and

July, 1884, and entitled "Cortical Lesions of the Brain." It will be perceived that the author does not claim that the organ in the brain of any mental faculty could be located through the teaching or agency of the cases presented. His conclusions are, however, "first, that various powers of the mind are to be connected with activity in various regions of the brain; the surface of the organ being the seat of conscious mental action; and, second, that the highest qualities of the mind, intellect, judgment, reason, self-control, require for their normal display, integrity of the entire brain, but, especially, of the frontal lobes."

Dr. Starr also gives a diagram showing, and states, that the cortical areas of the brain are connected with the organs of the body by nerve fibres which pass inward and downward from the surface, and collect together in a great tract—the internal capsule—in the centre. It is, therefore, evident that fibres, whose terminations are far apart, become closely approximated as they pass inward to the common tract. This is clearly shown in the diagram, where fibres from all the areas are seen to join in the capsule. But it becomes at once evident that pressure exerted over any considerable surface of the cortex and transmitted inward, will cause a compression of nerve fibres, whose origin is distant from the area directly involved. A tumor, for example, which lies in the middle third of the central region, and which depresses the surface of the brain an inch, will produce not only destruction of the area on which it lies, but also compression of the nerve fibres passing inwards from the adjacent lower and upper thirds of the central region. Pressure upon nerve fibres interferes with the performance of their function, therefore in such a case the distinction must be made between direct and indirect local symptoms;

the first due to the destruction of the cortical area, and the second due to compression of fibres from adjacent areas. In this manner many cases of extensive paralysis from a limited lesion, receive an adequate explanation.

Each area of the cortex is connected not only with parts of the body, but also with adjacent and with distant areas by means of associated fibres which pass from convolution to convolution. By this means, all parts of the brain surface are related to one another. An impulse starting in any region can therefore reach any other region in a normal brain.

The separate motor areas are therefore in anatomical relation with each other and with non-motor areas.

Some of the general conclusions of Dr. Starr:

From the analysis of the cases of cortical lesion of the brain here collected, and a review of the results reached by foreign authors, the following conclusions are drawn—

1. Various powers of the mind are to be connected with activity in various regions of the brain; the surface of the organ being the seat of conscious mental action.

2. The highest qualities of the mind, intellect, judgment, reason, self-control, require for their normal display integrity of the entire brain, but especially of the frontal lobes. A change of disposition and character may be considered as symptomatic of disease of the brain, and, in the absence of the other symptoms, of disease of the frontal lobes.

3. The power of sensory perception is disturbed over the various regions of the brain with which the sensory organs are anatomically connected. In these regions objects are, not only first consciously perceived, but are also subsequently recognized; and, hence, it is

in these regions that the memory pictures are stored, by whose aid the act of recognition is accomplished.

Still another and most interesting, because of anatomical and pathological enquiries made by Charcot, Richet, Beale and other modern investigators abroad, is that which relates to the number, arrangement, form, size and other peculiarities of the minute nerve cells of the cortical portion of the brain. Among the most notable microscopists in hospitals or asylums for insane in this country, is Dr. Theodore Deecke, Special Pathologist to the State Asylum at Utica, New York, who, it is understood, has been highly successful in having constructed a microscope of great power for the purpose of his investigations. By the aid of the various facilities furnished to, and the special skill developed by Dr. Deecke, he has made a large collection of most interesting anatomical and pathological specimens, for which he is justly entitled to great credit. Were it possible, as the result of increasing knowledge in this line of enquiry to ascertain what modifications would be required in the number, arrangement and construction of nerve cells, to fit each of the organs of which the brain is composed, for the performance of its own special duty, the great problem of brain function would be easily and quickly solved, but it is quite certain that the organ of each power or faculty of the mind must be definitely located by other means, before such microscopic investigation as this implies, can be made to determine more than the existing state of the organ, as it regards health and disease.

I conclude this branch of my subject, by the statement, that if it be true, as the authors quoted positively believe and teach, that the brain is not a homogeneous organ, a unit, but consists of an association or confederation, composed of a number of distinct organs

and functions, that it is my candid conviction, that neither by dissection, by comparative anatomy, by vivisection or experiments on living animals; by pathological investigation singly, or combined with the latter; or, lastly, by microscopic investigations, however long and carefully applied, can the function or the physiology of its several parts be ascertained.

PART SECOND.

I come next to speak of another method of investigation in regard to the physiology of the brain, which is none other than that originally proposed and followed by Gall, and in which Spurzheim, Combe and others afterward took prominent parts. Various impressions in regard to the legitimacy of Gall's method of proceeding have been held at different periods, and by men of equal eminence as anatomists, physiologists and mental philosophers.

Aside from the fact that Gall and Spurzheim ultimately became anatomists and comparative anatomists, also pathologists of great skill and renown, for the period in which they lived, (and in regard to the brain and nervous system in particular,) of any period before or since; nevertheless, it is true that Gall's original method for establishing a correct physiology of the brain consisted of examinations of that organ made on the exterior of the cranium.

While it will appear from the history of Gall's life and work, to be made hereafter, that many of the important results of examinations were made at an early period of his life, and before he laid any claim to anatomical knowledge; yet it will also be shown that his inferences in regard to physiological facts were fully verified and confirmed, so far as it was possible to do so, by subsequent anatomical demonstration.

As preliminary, however, to any statement of the results attained by Gall in his early enquiries by the method he adopted, I need scarcely say that he nowhere claims to explain *how* the brain, or indeed any bodily organ performs its function, this being distinctly beyond the knowledge granted by the infinite to finite minds.

I, however, frankly claim in behalf of his method of divining the uses of the regions and parts of the brain, that while it may not be the only legitimate methods for ascertaining the mental functions of the brain in all its parts, yet, that it was believed by Gall and his associates, and their adherents since, that, as a *first* enquiry in learning the uses of organized parts, it is the most approved of all others, whether the subjects observed belong to the animal or vegetable kingdoms.

Did any one ever attempt to predict, as to the character of the flower, the foliage or the fruit of a tree or shrub from the most accurate botanical delineation of its parts; or, in regard to the varying instincts and habits of animals of different species, from the anatomy of their brains?

Since the world began, has it not been the universal and invariable practice of observers, first to ascertain the facts relating to the capacity, character and habits of animals by observation, and in regard to different species by comparison of their points of resemblance and difference with their external and physical organization and functional powers?

Do not dealers in and users of domestic animals found their judgments, alike of their physical and mental powers and qualities upon knowledge derived from external examination? Certain physical developments in the horse indicate the possession of general strength, others great speed and endurance in action, others

the temper and disposition of the animal, and so on. The presence and association of these facts and qualities in regard to the horse may be fully verified on the living animal, and hence becomes the strongest inductive evidence in regard to fixed relations between organization and character.

Again in the practice of the physician, his knowledge of the location of the disease and the condition of organs in diseased states is first, if not exclusively, learned by observing the symptoms which can not be verified by pathological enquiries, except in case of the death of the patient. It may be admitted, however, that in a certain sense this method of proceeding is empirical, and for the time being so it is; but no more so than are the methods daily and hourly practiced by every human being, in the use of his senses, in forming judgments, in regard to the subjects to which they relate, rather than by an attempt to do it by scientific processes. When the subject admits of it, however, the latter may be practiced as an interesting scientific enquiry, or in verification of results reached by the inductive method.

In regard to man, it is in accordance with universal observation, that in the development of his brain and in the strength and action of his higher powers, mental and moral, the range of difference is a thousand fold more than exists even in the highest species of animals.

What more natural thing to occur, therefore, than for Gall, with his acute perceptive faculties at all ages, to note differences in the mental peculiarities, even of his school fellows; then to wonder, and ere long to believe, that they depended upon, or were connected with some corresponding development in the brain. Similar facts had undoubtedly made similar impressions on other

minds before Gall's period, as they have done ever since to this day, showing how strong are the convictions of even untrained minds in the general truths of the science. With increasing age and opportunity, his observations took a wider range, and were attended with still more definite and practical results. At first, and indeed at all times, at least during the earlier years and stages of his investigations, examples were sought showing the lowest and highest degrees of development of brain, and the corresponding manifestation of the faculties and feelings of individuals.

The extreme degrees embracing the driveling idiot, with small brain and less mental action than was to be found in some species of animals, up to the highest grade of development of brain in men and women of the most exalted mental powers.

Let it be understood that these observations in regard to the brain and mental manifestation were repeated in scores and hundreds of instances, so that the general inference on the part of Gall was, that there existed such a fixed relation between the two, that there was no ground for doubt on the subject. What stronger inductive evidence of the truth of the proposition was it possible to obtain. Farther observation showed that while the whole mind depended for its manifestation upon the whole brain, which everyone now admits, yet that the cerebral organs on which the faculties depended, were associated in different regions of that organ, according to their character and office in the mental group. While this general classification might to some extent have been inferred, yet Gall established it, as in the former instance, by the same inductive evidence from the multiplied observation of individual organs as before.

Of course, it was easy and most natural to infer that,

so far as related to the animal organs and faculties, possessed in common by man and animals, that they would be located in the same or basilar region of the brain in the former as in the latter. Gall, however, proved this to be the case by the same careful system of extended observations as before. To this extent it may be remarked, that the facts of comparative anatomy used afterwards by Gall and Spurzheim, with so much point and power, were brought forward to verify the correct localization of organs in this and in the other regions of the brain, as shown by the inductive method first in use.

In regard to the frontal and coronal regions of the brain, still more numerous and careful observations were made to establish the fact that to them should be assigned first the organs of the intellectual faculties, and, second, the higher sentiments peculiar to man alone.

Here I beg to inquire in passing, as to what possible advantage can be gained by physiological experiments, or brain mutilations of monkeys (the race of animals supposed to be nearest that of man) in ascertaining facts in regard to these two classes of faculties in the latter; and, also, for another class of scientists to endeavor to bridge over the chasm between monkeys and men, by any other method than an act of creative power by the infinite mind.

This, Mr. President, brings me to the very climax of the inquiry, and to the statement of the fact, that the underlying principles of mental science, based upon these views of the physiology of the brain, has been the pole star of my whole professional life—forty-two years of which (less sixteen days) I have been closely engaged in carrying out the professional and executive details of large institutions for the insane. I therefore

do not profess to have had either time, skill or strength, personally to verify the anatomical facts that corroborate the physiological views of Gall and Spurzheim, or to have made such personal observations in regard to the size and configuration of the brain, as they and others have done, to establish the truth of the science.

The next inquiry in the system of Gall and Spurzheim is that which relates to the location (in more modern phrase localization) of the individual cerebral organs belonging to each of the several regions of the brain and classes of faculties.

Without prolonging my statement by going into detail on this the most interesting and important branch of the enquiry, I will state that the facts were established by the most persistent and prolonged observation and comparison of individuals whose mental, moral or animal faculties were unequally manifested. These were cases of partial genius in some direction, while others showed partial congenital deficiency, giving in strongly marked cases, very distinct local differences, in the size and form of their heads.

After long years of the most patient and extended investigation of this class of subjects, as the location of individual organs could first be established in no other, and in connection with all the aids to be derived from anatomy and comparative anatomy of the brain, these eminent men, assisted largely by Mr. George Combe in the perfecting of details of arrangement and classification, presented a system of mental philosophy based on the physiology of the brain, destined, as I verily believe, ultimately to supersede all the metaphysical systems that have gone before or that now exist; and that it is par excellence the most important question for this, or for any succeeding age to decide.

Before making remarks of a practical character based on these views of the physiology of the brain in health and disease, I think it but natural to quote from "Spurzheim's Anatomy of the Brain," a description of his method of making the demonstration of the parts of that organ, which he claimed as original with Gall and himself.

GALL AND SPURZHEIM'S METHOD OF DISSECTING THE BRAIN.

As Gall and Spurzheim claim to have originated a peculiar and improved method of demonstrating the parts of the brain, I will quote from a work on the anatomy of the brain, by the latter, giving information on this point. The author remarks:

I may, indeed, say generally, that an examination of all the anatomical works published before our time, and an enquiry into the various modes in which the brain has been dissected, whether in public or private schools, will not fail to convince every candid mind that there is not even a hint at anatomico-physiological views which we have given to the world. These views some modern anatomists have adopted, and we still advance our claim of right to be considered as the discoverers and introducers of a new method of dissecting the brain—as the first demonstrators of the anatomy of its masses in harmony with their physiology.

I have shown that we consider the nerves commonly entitled cerebral, as independent of each other, and that we regard the masses of the cerebellum and brain properly so-called, as added to the nerves of the five senses and of voluntary motion. This point of doctrine established, we view the brain not as a unit or single organ, but as an assemblage of particular apparatuses destined to special and determinate functions, after the manner of the nerves of the external senses. To this it may be said that several anatomists have spoken of many peculiar parts; that they have even designated these by appropriate names, consequently that our ideas on the plurality of apparatus are not true.

There is no doubt whatever that all anatomists have recognized distinct parts of the brain, and given them names according to

their physical qualities. They have found hemispheres, convolutions, cavities, striated bodies, pea-shaped bodies, stalks or legs of the brain and cerebellum, writing pens, ram's horns, semicircular tape-worms, pyramidal and olive-like bodies, &c., &c. Now we, in showing that the individual masses so named, do by no means constitute special apparatuses, as performing peculiar functions, differ from all the anatomists who have gone before us. We were also the first to prove the relative proportions that exist between several of the cerebral masses, and to examine them in their mutual relations. If I continue to make use of the mechanical nomenclature to speak of parts in particular, which can no longer be considered as special apparatuses, it is only for the sake of being more readily understood. My connected description will show what masses I look upon as peculiar organs.

Our physiological views do not, it must be evident, allow us to go on cutting the brain into slices; this procedure, indeed, ought rather to be entitled a destruction, than an anatomical demonstration of the cerebral structure; it is precisely as though one should pretend to dissect a leg or an arm, by slicing down those members transversely, or to show the structure of the thoracic or abdominal viscera, by treating the trunk in a similar manner, and giving names to the appearances exposed after each successive slice. We commence our dissection at the place where the proper cerebral masses are added to the nervous parts already described; we trace them in their continuations, and in their mutual connections, and in the connections they maintain with the nerves of the five senses, and of voluntary motion; in short we proceed in the dissection of the brain in a manner precisely analogous to that which is followed in the anatomical demonstration of the other parts of the body.

Besides the above general anatomical principle as regards procedure, it is important to know that on account of their extremely delicate organization the structure of several cerebral parts may be more easily and clearly exposed by means of scraping than by cutting. This is the reason why I frequently prefer the handle to the blade of the scalpel, for removing parts that cover those whose course I would show—for instance, the passage of the pyramidal bodies across the annular protuberance—the continuation of the anterior commissure through the striated bodies in the middle lobes of the brain, and of the anterior pillar of the formix onward to the mammillary bodies and interior of the thalami.

The brain should be removed from the cranium, care being taken not to tear the crura at the superior edge of the annular protuber-

ance, (an accident that is very apt to occur,) nor to injure the medulla oblongata at the lower edge of the same part, and to cut the spinal mass so low down as to obtain, besides the entire medulla oblongata, the upper part of the true spinal cord. The brain thus freed from the skull is to be put upon a plate with the base uppermost. The cerebellum and medula oblongata having lost the support of the bone now falls backward. In this position all the appearances presented by the base of the brain are visible."

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mencement in the medulla oblongata to the termination of its diverging fibres by which all parts are brought into perfect connection, is discovered, together with the reinforcement of these fibres and their successive additions, by means of the grey substance distributed throughout all parts of the cerebrum and cerebellum. Thus the fact of the plurality of the organs in the brain, is established together with their constant intercommunication.

If with the knowledge of this important anatomical disposition of the cerebral organs we now connect the multiplied and multiplying facts derived from the examination of the exterior of the cranium, and also the observations made upon the intellectual and effective faculties of man, together with the state of the brain and mental manifestations in disease of that organ, we can not easily avoid the conclusion arrived at by Gall and Spurzheim, that the faculties of the mind are innate, and that they possess a habitation in the brain well characterized and defined.

BEARING OF PHYSIOLOGICAL VIEWS ON MENTAL PHILOSOPHY.

I now assume for the purpose of describing the relation between the faculties of the mind in health and disease, not only that the physiology of the brain as herein set forth, is true, but that it affords a clear and intelligent basis, alike for a system of mental philosophy, and for the comprehension and treatment of insanity.

I state first in regard to systems of mental philosophy that in all former ages, and largely in this, the so-called systems of mental science have been based entirely upon speculative views in regard to the nature and essence of mind in the abstract, and without any

intelligent idea of its connection with the brain, as the physical organ, for its manifestation in this life.

While some have admitted the existence of an indefinite and vague relation between the whole mind and the whole brain, others have believed in a mere supernatural dispensation of gifts. We claim, however, that the brain is indispensable to mental phenomena, that the various classes of organs, or parts of which it is composed for the manifestation of intellect, sentiment and propensity constitute its different regions. We thus find that the individual organs of each region are *specially endowed* by the Creator for performing the office assigned them; a thing no more mysterious or improbable in itself than that the nervous apparatuses of the several external senses, should be able to perform their functions, by virtue of similar provisions.

This then brings us, and by the only practicable method that of Gall and Spurzheim, to the very confines of discovery in this direction.

While it is not claimed that organization produces the intellectual and affective faculties of man's mind, as a tree brings forth fruit, yet it is held that organic conditions, as above stated, are necessary for their manifestation in this life. While the fact of this association, by the Creator, of the mind of man in development and manifestation with organized matter can not be questioned, it is an act only of idle impiety for man to question, either his power or his wisdom for accomplishing it in accordance with the established laws of the physical world in which he resides. It may, therefore, be stated that the brain consists of a great number of individual organs or parts, each being endowed for the performance of special functions, and all of which are either directly or indirectly placed in

relation, and are adapted to the world in which we live, through the agency of the five senses whose functional powers are derived from the same source.

From this it follows that all of the infinite variety in the mental manifestations of the human species, primarily depends on the varying strength and activity, single, and combined of the individual organs of the brain. In accordance with this view and beginning with the frontal region, we have the organs of the intellectual faculties divided into perceptive and reflective. The first collects facts, the second compares and reasons from them.

The coronal region contains the higher sentiments proper to man alone; while in the middle posterior and basilar regions are located the organs of the feelings and propensities common to man and animals. All affective faculties and propensities are blind, and dependent upon enlightened intellect for guidance and control.

With this view of mental philosophy, or of the mental constitution of man, it is obvious, that the highest office of educators in all departments of instruction, and at all ages of their pupils, is to develop alike the powers of the body and the faculties of the mind to the extent intended by nature that they should reach, and in harmony with each other. If certain powers and faculties are relatively deficient or weak, while others are unduly strong, the education and training received should tend to render them more equal and uniform according to the standard of the individual. Above all every person should hold correct views as to the nature and object of each primitive mental faculty, feeling and propensity, so that each may be trained to its proper use only.

The importance of this is apparent in actual life,

both in regard to the happiness and usefulness of individuals and to society in general. Many familiar illustrations of this principle can be given, but particularly in regard to the maintenance of equanimity of feeling and proper self-control under the varying circumstances of actual life.

For example, much of our knowledge of external relations comes to the mind through the senses. Such knowledge is in relation to and is adapted to excite in turn the primitive feelings of every class. When active they form desires for gratification, and when gratified within certain limits render us contented and happy. The restriction over them is to be exercised by enlightened reason. When this is perfectly accomplished, the temper, expressions and conduct of the individual, are in accordance with propriety, truth, justice, benevolence, or simply good taste, as the case may be. When several of the feelings are active or in a state of desire for gratification, it is the office of intellect to consider the claims or the propriety of each, and to decide between them; and—if the decision is put in force—this is but an act of will, which is not a special faculty as is generally taught, but the application of reason, or the reflective powers, to our desires and notions, and is the basis of moral liberty in the subject. One of the most frequent occasions of unregulated impulse is to allow the defensive faculty of combativeness to give way to explosions of anger in the form of harsh words, or perchance, hard blows, when there is no just occasion to call it forth. Under proper training this feeling can be rendered subordinate to reason, or kept under control at all times. It may be used legitimately to give tone and proper vigor to the mind in the protection of individual rights; but what propriety is there in allowing it to take the form of

passion on slight occasions. For example, suppose an employé, through ignorance, stupidity or even neglect, should allow the machinery in his charge to go wrong, break down, and occasion delay and loss of time to owners and other operatives. The provocation to passionate expression and conduct thus given may be considerable to an untrained mind, but stop and think just how far matters will be mended by indulging the feeling in explosive words, in place of using the intellect in devising ways and means to overcome the difficulty. Every one under similar circumstances should say to himself, I will not allow my tranquility and peace of mind to be ruffled or destroyed by such an occurrence. This may be difficult at first, but if the man brings into exercise his self-esteem or feelings of self-respect, as to his conduct and language on such occasions, also his conscientiousness and firmness to assist him in the art of self-control, the power will soon be gained of holding at least the expression of his irritated feelings in abeyance. When it is all over, and in looking back upon the petty transaction, he will be rejoiced that his self-respect was maintained. This should be repeated once, twice, thrice, one hundred or one thousand times, if need be, to accomplish the object.

This is given only as a single illustration, though an important one of the necessity on the part of individuals, for cultivating equanimity of feeling and self-control under all circumstances of life.

It is also a fitting illustration of one of the important advantages of knowing the primary office of the several mental faculties and feelings, and of acquiring the ability to use or restrain each in turn, as the daily and hourly affairs of individuals shall require for happiness and success.

BEARING OF PHYSIOLOGY ON INSANITY OR MENTAL DERANGEMENT.

In discussing this, for the present, the most important branch of my subject, I take the ground and use the language of Dr. Andrew Combe in his valuable work on Mental Derangement (not mental disease, a highly objectionable term) that phrenology has proved that the brain is an aggregate of many distinct organs, each manifesting a distinct mental power. It proves that one or more of these organs may be injured or diseased, and their functions impeded or altered, without necessarily affecting the remainder and thus explains how a man may be insane on one feeling or faculty, and sound on all the rest; and, consequently, how, when a different organ is diseased, the faculty or feeling that is deranged may be different and yet the disease itself remain exactly of the same nature. Inflammation affecting the eye disturbs vision, and affecting the ear, disturbs hearing, because vision is the function of the one, and hearing is the function of the other; but still it is inflammation in both, and requires in both the same kind of treatment. Phrenology shows that in like manner, morbid excitement of the cerebral organs of combativeness and destructiveness may produce raving violence and fury; and a morbid excitement of the organ of cautiousness produces fear, apprehension, despondency, and melancholy, not from any difference in the kind of excitement, but simply from the function of the one being to manifest the propensities first named, and from the function of the other being to manifest feeling of caution; and that hence, both cases may require the same medical treatment for their removal, modified only by the difference of function; and in so far it affords a simple and consistent explana-

tion of all the various forms which insanity assumes, and leaves us free to observe with care the nature of the organic derangement on which each depends.

Widely different from this is the mode of proceeding of those who ridicule the plurality of cerebral organs, and maintain the brain to be a unit, every part serving equally to manifest all the faculties. On this principle it is impossible to explain how it happens that in a majority of instances, a few only of the mental powers are deranged, while the others remain sound and untouched. For if the whole brain were the single organ of mind, every part of it ought to concur in every mental operation, and all the faculties of mind, of which it is said to be the instrument, ought in every case to be equally deranged, and the patient ought to pass in one moment from an abyss of despondency to the abodes of bliss, or from a state of listless apathy to that of demoniacal furor. We may be told that this is sometimes found actually to be the case, and no doubt it is so; but it is far more rare than that in which the mental affection is partial, and retains its characteristic features unchanged. The idiot, who to-day manifests the faculty of tune, the feeling of benevolence, of veneration or of self-esteem, will not to-morrow, nor in a year, change the nature of his predominant manifestations. In like manner the monomaniac, the feature of whose insanity is to fancy himself a king, or possessed of boundless power and wealth, will not to-morrow believe himself a slave, or in wretchedness and want. Nor will the rich lunatic, whose fear is of dying from starvation, manifest the gaiety and lightness of one who fancies himself the favorite of some supernatural power, as might have been expected had the brain been as a unit the organ of all the faculties. Sometimes, indeed, heterogeneous manifestations and rapid changes from

one class of ideas to another take place; but then, the whole brain, including, of course, all the organs, is diseased. This state, therefore, affords a true picture of the nature of insanity, such as it would necessarily be in every instance, if the mind were single.

To account for the variety of forms which derangement of so many mental faculties and organs may assume, the advocates of the unity of the organ of mind are constrained to create a new malady for every change in the appearance of the mental symptoms, and, following the wide variety thus presented, they conjure up a list of mental disorders numerous and complicated enough to damp the ardor of the most diligent and determined student, and at the same time running so much into each other as to defy all attempts at discriminating or describing them. Pathology is equally abundant in demonstrative proof of the plurality of cerebral organs. Partial idiocy—partial injuries of the brain, which do not affect all the mental faculties—insanity, affecting only one or two faculties—cases of apoplexy, followed by loss of memory of names, without apparent deficiency in other respects—and the occasional development of new powers by disease—are all at variance with the unity and in harmony with the plurality of cerebral organs.

Some object to the brain being considered as an aggregate of parts performing distinct functions—that this is impossible, because there is no visible partition separating them from each other; but the same objection having been erroneously urged against nerves, now demonstrated to be compound, shows how little weight ought to attach to our notions of what ought to be, when placed in opposition to what is. If we knew intimately the structure of the brain, and were minutely acquainted with the capabilities belonging to such

a structure, and founding on these, could show that two parts of the brain lying in contact with each other could not possibly perform distinct mental functions, then the objection would have weight. But if experience shows that the fact is the reverse, we are with due submission to divine wisdom, bound to believe that the respective organs *are* duly fitted for the perfect performance of the functions for which they were destined. There is in point of fact, also, a greater similarity between the different mental functions than between sensation and motion, and yet we find the nervous fibres performing the latter inextricably intermixed in apparently a single bundle. Again, although long disputed, it is now generally acknowledged, that the three nerves of the tongue subserve taste, motion and touch; and the difficulty is not greater in regard to the brain, than it is in regard to them, or to the spinal nerves; for it was inability to distinguish any boundary between their constituent parts that alone prevented their separate functions being sooner demonstrated. But the reasons which led to their being viewed as compound, existed in all their force long before the fact was ascertained, and were felt by many, and by none more than Dr. Spurzheim, to be as conclusive then as they are proved to be now, that is, was universally acknowledged.

In discussing the subject of mental derangement it is usual to speak at considerable length of the causes predisposing and exciting that produce it, or that precede an attack of the disease. On this occasion, and for the particular purpose of showing the relation or bearing of the physiology of the brain to this disease, as set forth in this article, I shall confine my attention mainly to the influence of the irregular and unequal development of the various regions and organs of the

brain, as disturbing causes, tending to produce an unsettled state of health and mind.

In a brain well and equally developed and with the faculties of various kinds equally well trained and strengthened, the tendency to derangement from mental causes are but few and slight; the individual in a state of health being able to make his way in life with scarcely a ripple to disturb the peace and tranquility of his mind. Unfortunately, however, the brains and minds of many individuals in whole regions as well as in the individual organs, are unfavorably developed, and thus naturally predisposed to irregular mental manifestation, and in some cases, to actual cerebral disease leading directly or indirectly to insanity, through their inability and want of fortitude to meet the responsibilities and bear the ills of life. This may occur with persons of moderate or weak intellectual faculties and with hopeful and ambitious feelings demanding gratification beyond the power of intellect to accomplish the desired and expected end.

While it is by no means claimed that insanity always orginates from excess in the functional activity of the strongest or most fully developed organs, yet, this is frequently the case, as may be shown by examples of this kind. First, it may be stated that it is not difficult physiologically to understand how functional exercise becomes an exciting cause. When we use the eye too long, too intently, or in too bright a light, its vessels and nerves become too much excited and a sensation of fatigue and pain arises. If we continue its exercise the excitement increases, the vessels act with unusual force, and becoming distended with blood, give the membrane what may be called a blood-shot appearance, the surface of the eye becomes suffused with tears, the eyelids sore, and a feeling of

tension and weight which extends to the forehead, is felt. If we now turn away the eye, the irritation gradually subsides, and the healthy state returns; but if we continue to look intently, or resume our employment, before the eye has regained its natural state by repose, the irritation at last becomes permanent, and disease followed by weakness of sight, or even blindness may ensue, as often happens to glass-blowers, smiths and others exposed to work in an intense light.

In the same way if there be a part of the brain by which the mind feels the emotion of fear, it is easy to conceive how violent and long continued action of that part should first induce functional aberration characterized by unusual energy and vivacity of the corresponding feeling, and, ultimately, give rise to permanent disease or even change of structure in the organ, rendering its healthy action forever after impossible.

The mental phenomena attending such a process, would be first extreme anxiety, apprehension and terror from inadequate causes, corresponding to excessive action in the organ of cautiousness; and, afterwards, permanent melancholy and depression of mind, if the irritation in the organs was of a more durable character. But if the morbid change was so great as to impair the structure as in ramollissement, a suppression of the feeling of fear, and the consequent incapacity of acting with caution and prudence would be the consequence.

An example of this is given by Combe in the case of a gentleman whose faculty of circumspection had been in constant activity for several months, in directing the sailing of a pleasure yacht during a squally summer. By this constant exercise, the energy and activity of the organ had been highly roused, and the consequence

was, that on his return home, when it had nothing to guard against, and no legitimate way of exhausting itself, he found himself suddenly seized with nocturnal fits of terror and alarm, without even an imaginary cause, and these gradually abated as the excitement subsided.

Of the second kind, or permanent melancholy, we have everywhere too many examples; and of the suppression of feeling from change of structure in the organ, we have an interesting example in the Rev. Mr. N., who in consequence of apoplexy and ramollissement in the organs of cautiousness, became totally inconsiderate from having been cautious and prudent. He recovered so far as to manifest his intellectual faculties and religious feelings in a state of integrity; but his cautiousness was forever impaired, and so completely was he inconsiderate in feeling and in acting, that he was obliged to be withdrawn from public life.

If an individual naturally timid (or endowed with large cautiousness) and of an irritable constitution be exposed to sudden and appalling danger he may become insane, and the fright, in common language, is called the moral cause. Physiologically speaking, however, we would say that the danger is the natural stimulus to the organ of cautiousness, just as light is that which stimulates the eye, and that the over excitement of function thus produced has deranged the healthy action of the organ.

Functional excitement of the cerebral organs may arise in two ways, either from internal activity or from the stimulus of external objects. Sometimes an individual falls by insensible degrees into a train of feeling or thinking, which at first is characterized only by its intensity and frequency, but gradually increases in both of these respects until it becomes confirmed

tension and weight which extends to the forehead, is felt. If we now turn away the eye, the irritation gradually subsides, and the healthy state returns; but if we continue to look intently, or resume our employment, before the eye has regained its natural state by repose, the irritation at last becomes permanent, and disease followed by weakness of sight, or even blindness may ensue, as often happens to glass-blowers, smiths and others exposed to work in an intense light.

In the same way if there be a part of the brain by which the mind feels the emotion of fear, it is easy to conceive how violent and long continued action of that part should first induce functional aberration characterized by unusual energy and vivacity of the corresponding feeling, and, ultimately, give rise to permanent disease or even change of structure in the organ, rendering its healthy action forever after impossible.

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monomania. Thus a man of a vivacious temperament and mechanical genius, will commence with great ardor constructing some piece of mechanism; he will then conceive the idea of inventing the perpetual motion and proceed with increasing interest and energy in his pursuit, till his conceptions shall become bewildered, this idea alone occupying the mind, and reason be displaced. The explanation is, that the organs of the constructive talents being naturally in excess in point of size, had at all times a tendency to preponderating action; that the first stage of this action was accompanied merely by great mental earnestness and vivacity in the pursuit, but that this functional activity, long and energetically operating in organs possessing an imperfect constitution, at last degenerated into settled functional derangement, or, in other words, into a form of monomania.

Pinel gives a case very similar to the above statement; and this is in truth the nature of the derangement which commonly affects poets, painters and men of partial genius.

Morbid excitement of the cerebral organs from the stimulus of *external* objects or relations, however, is still more common. Whatever causes deep emotion or excites intense and continous thinking especially if the organs concerned are largely developed, produces the same kind of excessive and irregular action as the above. The same principles explain why insanity may arise sometimes from sudden presentment of an object about which the mind is deeply interested.

Pinel alludes to a family of three brothers in whom the domestic affections were very powerful. Two of them were marched off as conscripts, and one was soon after killed at the side of the other. The latter remained fixed to the spot like a statue; and

taken home in this condition, the impression made on the third brother was so powerful, that he also became insane. Here the violent action produced in the organs by the sudden deprivation evidently gave rise to a morbid affection of the brain, and to the insanity of both. But suppose, as an example of the other case, a most devoted mother to have received intelligence of the death of a beloved son to have regretted him long and deeply, but to have recovered some composure of mind, and that in this state he should suddenly present himself before her in health and strength. It is easy to conceive this new excitement although highly pleasurable coming forcibly and unexpectedly upon organs weakened by previous excessive action, rousing them to the uttermost, and leading to positive disease and confirmed insanity.

Such cases are rare, but they have occurred, and persons have been known to die even from excess of joy; a fact explicable only on the principle of excessive action being thereby produced in the material organ of the mind. From these examples it will be inferred by those who have had any experience of insanity, that its most prolific and powerful functional causes, are to be found in over-excitement of those faculties and organs, which are distinguished in their general predominance and power over the rest; and that it is comparatively rare to see it arise from over-action in any of the smaller organs such as many of those of the purely intellectual faculties.

When the morbid action extends so as to implicate sometimes a few organs and sometimes the whole brain, giving rise to a complication of symptoms proportional to its extent, but even then, the morbid activity is generally greatest in the largest organs, and con-

sequently its most prominent mental features continue to be those indicative of disturbance of the functions which those organs perform.

The cerebellum or organ of amativeness, is perhaps the largest of all the organs, and the frequency of disease and of insanity from abuse of its functions is known to every one; but madness from this cause is observed to occur chiefly, according to the principles already explained, in persons remarkable for high development and great energy of function of the cerebellum.

Nymphomania is another name for cerebellar disease, attended by functional excitement, but which is often erroneously supposed to have its seat in the uterus, or external organs.

Gall mentions the case of a very intelligent lady well educated, who was tormented from infancy with inordinate desires. Arrived at maturity she gave herself up to the gratification of her desires, but they only increased in intensity. She saw herself frequently on the verge of madness, and reduced to despair left her house and the city, and took refuge with her mother in a secluded situation in the country where the absence of exciting objects, the greater severity of manners and the culture of a garden prevented the explosion of disease. After having returned to town for some time, she was threatend with a relapse, and again took refuge with her mother. At her return to Paris, she came to me, and complained like a woman in perfect despair. Everywhere, she explained, I see nothing but the most salacious images; the demon of luxury pursues me everywhere; at table and even in sleep, I am an object of disgust to myself, and feel that I can no longer escape either madness or death.

Such is a picture of the deplorable state to which

irritation of the cerebellum conducts its unhappy victim. In this instance Gall pointed out the cause to the patient, drew her attention to the enormous development of the organ, and advised her to return to the country, avoid all excitement, and apply leeches to the head, as the only means of saving her.

Sometimes, though rarely, the disease occurs where the organ and function are not in great endowment. As descriptive of this state, Pinel remarks: I have seen females the most remarkable for the purity of their manners, experience during an attack of mania this unhappy approximation to women of abandoned character, and regain in their convalescence their primitive character of reserve and extreme propriety.

Strong excitement of philoprogenitiveness (organ of love of offspring) is a frequent cause of insanity, as its organ is remarkable for size, particularly in females. Dr. Gall met with a curious instance of it in the great hospital of Vienna, apparently from excess of organic endowment. This patient conceived herself pregnant with six children, and as Dr. Gall expected, a corresponding predominance of development in the posterior lobe where the organ is situated. He was anxious to get possession of the woman's skull after her death. It was accordingly sent to him by the physicians, and the organ was found to be enormously large, so much so that the celebrated German physiologist, Rudolphi, tried to account for its size, by some supposed pressure, unwilling as he was to allow it to be a production of nature.

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supposed murder of her children, and who, on being asked after her recovery, what her sensations were during the paroxysm, applied her hand to the region of this organ, and said that she was conscious of nothing except pain in that part of her head.

Dr. Burrows refers to an instance mentioned by Turnbull, in which a native of one of the South Sea Islands having had a child taken from her to make a sacrifice to a barbarous idol, went mad; and in consequence becoming very troublesome, her countrymen killed her. An occurrence of this kind among a savage people shows how powerfully the brain may be irritated through the medium of the organ by which this feeling is manifested, and there can be little doubt but that puerperal madness is sometimes partly to be ascribed to the same cause, operating upon a very excitable state of the nervous system.

The organ of *adhesiveness* is another of very considerable size, irritation of which is consequently a frequent cause of insanity. Probably a large proportion of the cases which are said to arise from disappointed affection are ascribable to derangement of the function of adhesiveness. The activity of this feeling gives a warmth of attachment that can be satisfied only by the warmest return; and if it is glowing on one side, and not on the other, the effect, especially when the influence of amativeness is combined with it, is to create an indescribable craving or unsatisfied state in the faculty, which is soon followed by ennui, disgust, low spirits, a desire for solitude, and ultimately, complete derangement of mind. In this case amativeness adds to the flame; but, without the attachment, amativeness would not interest itself in any particular object.

Pinel relates a very curious case of derangement from

an affection of adhesiveness, and which is doubly interesting, phrenologically, as showing how intense excitement of that organ gives rise to excitement in those contiguous to it. A lady of rather a melancholy character, on the death of her father, rolled herself on the ground, tore her hair, and uttered imprecations against universal nature, and in her despair, sighed for the utter destruction of the human race. Is it not from the contiguity of the organs of adhesiveness, combativeness, and destructiveness that domestic dissentions are generally the most bitter and irreconcilable of any?

From over-stimulated acquisitiveness, a functional cause, there are many cases of derangement in all ranks of life. Over-stimulation of the organs of conscientiousness and veneration joined to cautiousness give rise to that deplorable form of melancholy, in which the patient is so overwhelmed by the sense of his guilt in the sight of God that he can not for a moment turn his mind to the hopes held out in the Gospel to the repentant sinner, but passes his days and nights in the deepest remorse insensible to every other impression.

The organs of combativeness and destructiveness are among the largest in the brain, and the unrestrained gratification of these cravings is a frequent functional cause of derangement. Bursts of passion and irascibility of temper (says Pinel) are often the preludes of insanity, and strongly favor its invasion.

There are many remarkable cases of insanity reported from over-excitement of these organs, while there are a still greater number of cases of general mania in which the over-excitement of these organs form a prominent and most dangerous part.

From over-excited and deranged self-esteem we have exhibitions of pride, jealousy, arrogance and the spirit

of domination. In one instance a patient gave his orders with the tone of an Asiatic despot, and ended by conceiving himself Chancellor of England, Duke of Batavia, and a powerful monarch.

Inordinate excitement of love of approbation is frequently a functional cause of derangement, particularly where ambition and the desire of distinction are naturally strong ingredients in the character. From this proceeds the most extravagant manifestations of vanity.

I forbear, however, to tax the Association with the detail of cases, of which every institution for the care of the insane have many examples, and which tend to show how closely connected is the comprehension and treatment of insanity with the physiology of the brain as set forth in the system of Gall and Spurzheim.

Though I have not spoken of the connection or relation of the intellectual faculties to the affective when the latter are deranged, through disease of their several organs, yet it should be understood that a state of insanity and irresponsibility does not exist until the intellect is deceived or deluded in regard to the subjects to which the diseased organs relate, when in a state of health. For want of time and space I omit allusion to the more general and mixed forms, or rather examples, of insanity, to the subject of the responsibility of the insane, and to its medical, mental and moral treatment.

[To be Continued.]

A VISIT TO GHEEL.

BY CHARLES W. PILGRIM, M. D.,
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Gheel, the centre of the insane colony of Belgium, of which so much has been written, is a town of ten or twelve thousand inhabitants, situated about thirty miles from Antwerp, in a half barren stretch of moorland known as the Campine or Kampenland. The town itself is very unattractive. Nearly all the houses are alike, being of stucco, whitewashed, without porches or embellishments of any kind, and the streets have neither sidewalks nor shade. In fact, in the language of Dr. Peeters, it is "very monotonous and very tranquil, without commerce and without industry."

The insane cared for under this "family system" number about seventeen hundred, about five hundred being in Gheel, while the remainder are distributed through a district of some thirty miles in circumference, divided into four sections, each with its separate physician and guard.

Almost every one is familiar with the legend which relates how the Irish princess Dymphna, who, after being converted to Christianity, sought refuge in Gheel from the incestuous love of her heathen father. Her confessor was the companion of her flight. The relentless father, with his soldiers, pursued the fugitives, and finding them in Gheel, put them to death, he himself beheading his daughter. Gradually the belief arose among the superstitious inhabitants, that the tomb of the unfortunate princess possessed miraculous power in healing "the mind diseased," and soon numerous pilgrims came from afar to pray at this Mecca where she

had offered up her life to escape the fate which years later befell Beatrice Cenci.

How this belief originated is not satisfactorily explained. One theory is that it would be but natural for the virgin martyr to be invested with some such power, while another is that an alien who witnessed the beheading suddenly recovered his reason. At all events, St. Dymphna became the patroness of the insane. Despite the obscurities of this legend the memory of the saint has been faithfully kept alive in Gheel, and the whole town is filled with reminiscences of the sojourn and the death of the daughter of the Irish king. Even in the present day an annual fête is held in her honor, when numerous relics are exhibited to extraordinary numbers of the curious and devout.

Near the centre of the town is a painted group in stone representing the father in the act of beheading the supplicating daughter, while Satan is just peeping up behind. This group is set in an alcove in the walls of an old hospital, which was formerly used for the reception of cases of contagious disease, and is protected in front by an iron railing. On the sides of three walls there are various inscriptions in Flemish, among others one which states that St. Dymphna was beheaded by her father on that very spot on the 30th of May, in the year 600. But most prominent of all is the one beseeching the prayers of holy Dymphna. This same request:

"O. H. Dymphne
Bid voor ons,"

is seen in other places and gives us some idea of the implicit belief in her power as well as in the origin of the present system.

The fame of the shrine spread rapidly and finally a large and beautiful church was erected to her

memory on the site of St. Martin's chapel which existed in the seventh century. This church was begun in the twelfth century, and finished in 1340, and it still stands to bear witness to the importance formerly attached to the shrine. The altar contains the apotheosis of the saint, and the pavement underneath shows deep furrows worn there by the knees of the hopeful enthusiasts "as they made their manifold transits on nine successive days."

Although the date of the inception of the present system is not known, it is a well established fact that at least two hundred years ago a religious institution for the care of the insane exisited in the town. The patients came from all parts of the country, and went immediately to the church where some curious old rooms, adjoining, with heavy doors and iron bars, may still be seen. The church, with its limited rooms, soon became too small for all who sought for aid, and, as many of the unfortunate ones who had not been cured during the first nine days returned for a second trial, the inhabitants of the town were obliged to furnish them with food and shelter. In this way the simple villagers became accustomed to the care of the insane and found that they did not always need chains and bars as was then generally supposed. Thus the system little by little grew to importance.

When M. Pontecoulant was appointed by Napoleon, Prefect of the Revolution Department of the Dyle, his attention was called to Gheel, and, as the insane in the asylum in Brussels were then in a sad condition, he caused them all to be removed from the capital to the little country town. This of course gave the place much prominence. Abuses gradually crept into the system and M. Ducpétiaux, inspector general of benvolent institutions in Belgium, began investigations

in 1850, which resulted in many reforms, and on May 1, 1851, a law was passed defining the relations between the patients and their protectors. Since then amendments have been made from time to time.

On the 15th of July, I visited this interesting place and was very kindly received by Dr. Peeters, the chief medical officer, who personally conducted me through the *Infirmérie* and willingly answered my numerous questions.

In my visit to the various houses, I was accompanied by the guard of the division. He has been connected with the colony for many years, and I found him intelligent and anxious to furnish all the information asked for.

The *Infirmérie* is situated on the outskirts of the town, and was built in 1861, to take the place of a little building in the village which had before been used for hospital purposes. It is capable of accommodating about sixty patients, and no one, unless in very weak physical condition, is kept there for more than eight days, as at the weekly meeting of the committee, all suitable cases are placed under the care of a *nourricier* or *hôte*.

The *Infirmérie* needs no special description as it is only the "family system" which is peculiar and of unusual interest.

At the outset, it may be well to state that a careful selection is made in regard to the patients sent to Gheel, it being the intention to there care for only harmless lunatics. Those with suicidal, homicidal, incendiary or other dangerous tendencies are sent to one of the ordinary Belgian asylums. If by chance a dangerous person is sent to Gheel he is transferred as soon as the fact is ascertained, and *vice versâ*, when the superintendent of any of the other asylums is satisfied

as to the harmlessness of any of his patients, the transfer to Gheel is made. This is not the only mode of admission, however, as patients are admitted directly into the colony without having been in other asylums.

The inhabitants of the village depend for their support almost entirely upon their incomes derived from caring for the insane, and in the majority of houses from one to three patients may be found. No more than three patients are permitted to be cared for in any one house, and the two sexes are not supposed to be cared for in the same dwelling. To this latter rule, however, I found one exception, a male idiot and a female lunatic being cared for by the same family. This naturally suggested the question of the possibility of improper relations between the two sexes as a result of the system, and I was told that during the past thirty years, in five or six instances, female members of the colony had given birth to children. To do justice to the male patients, however, it is necessary to state that the crime in some of the cases referred to was traced to the sane residents of the town.

Suicides and acts of violence, I was informed, are rare owing to the discrimination in regard to the reception of cases with such tendencies.

It is the endeavor of the authorities to carefully select the *hôtes* and *nourriciers*, and a license to receive patients is only granted to those supposed to be worthy of confidence. The two terms *hôte* and *nourricier* have a different significance, the former receiving only private patients while the latter cares for the indigents. When the care of a patient is assumed by a *hôte* or *nourricier* he is furnished with a book giving the patient's name, age, date of admission, the amount to be paid for his care, etc. In this book an account is kept of all the articles furnished to the

patient, and the physician must also enter his name and the date of every visit, which in chronic cases must be as often as once a month, and in cases recently admitted or supposed to be curable once a week or oftener if necessary.

Patients are transferred from the care of one *nourricier* to that of another whenever circumstances render it advisable.

The patients are divided into two general classes—*Pensionnaires* and *Indigents*. The first, of whom there is less then ten per cent, are supported by their friends, while the second are supported as public charges.

The *Indigents* are again divided into three classes—

First. Those who are clean, in good physical condition, and partly able to pay for their care by the work which they do for the *nourricier*. For this class a charge of eighty-four centimes per day (about seventeen cents) is made. Sixty centimes go to the *nourricier* for board and care while the remaining twenty-four are divided about equally between the clothing account and that of administration and medical attendance. This is the average proportion of the division of the income from public patients.

Second. Those who are not so well able to work, and who are occasionally filthy. This class is comprised chiefly of dements and idiots, and a charge of ninety-four (94) centimes per day is made for their board and care.

Third. Those who are filthy and totally unable to work. For the care of this class a charge of one franc and ten centimes per day is made.

The *pensionnaires* pay various prices according to circumstances, ranging from that paid by the *indigents* to, in very exceptional cases, six thousand francs per annum. An additional sum of eleven per cent of the

amount paid to the *hôte* must be paid into the fund for the maintenance of the administrative and medical service.

I shall make no attempt to describe all the houses I visited as it would involve too much repetition, many of them being very similiar, but shall merely try to give some idea of the several classes.

The first was a modest, unpretentious village dwelling. The door was opened by a talkative old woman who wore a clean, white apron and cap, but no shoes. She had but one patient under her care—a general paralytic in the second stage. The house, though very plain, was neat and well kept, and the bed-room and bedding were clean. The patient sat listlessly in a chair, taking no notice of anything, and he could not be engaged in conversation. I wondered what could be done with him when he became helpless and filthy. In response to the question, I was told that he would probably stay there and was assured by the woman that she had had such patients before, had managed them without difficulty, and had kept them clean. When one remembers how difficult the accomplishment of this sometimes is with such patients, even with all the conveniences of a modern asylum, her statement may be fairly questioned. She received twelve hundred francs per year for his care, and he was classed among the second class private patients.

The second house contained three patients who paid three thousand francs each per year. It was much more pretentious than the first, and was surrounded by pleasant grounds, a feature quite unusual in the village. The gate leading to the house was locked, and it would have been very difficult for a patient to get over the fence into the street. In explanation of this it was said that the occasional excitability and

tendency to escape on the part of one of the patients rendered this precaution necessary. Of the three patients one was an Englishman, one a Polish prince, and one a Frenchman. Two appeared to be quiet, harmless lunatics, while the third was melancholic, sullen and irritable, and subject, it was said, to periods of excitement. The house was in charge of a man and wife and daughter, although during my visit the man was not to be seen.

In the third house was an old Irish woman who had been in the colony five or six years. She was quite demented and had but an indistinct recollection of past events. Her room was fairly comfortable, it being probably as good as she would have had at home had she been sane. It was, however, much inferior in every respect, to the ordinary asylum quarters. When questioned she expressed herself as being satisfied with her food and treatment, and said that she was quite contented. Her mental condition, however, was not active enough to make her fully appreciate her surroundings or the questions asked her. She paid five hundred francs per annum.

In the fourth house there were two patients, and both were Englishmen. The woman in charge had been caring for the insane for twelve years, and spoke good English. I only saw one of her charges, apparently a harmless, talkative lunatic, whose counterpart might be found in any asylum. He thought that he possessed great artistic ability, and spent a great deal of his time in going about the country making worthless sketches. He railed against the system, much as lunatics of his kind rail against asylums, and declared his intention to write an *exposé* of the whole affair at some future time. He claimed that he could have just as much liberty in any modern English

asylum as he had in Gheel, an assertion in which he was probably right. The house and charges were similar to the one just described.

The next house which I visited was quite different from any of those mentioned. Leaving the main street we turned into a narrow alley and entered a low, one-story house with brick floor and unplastered ceiling. It was not as clean as it might have been; the odors were not sweet, and the sanitary conditions seemed very poor. In fact it was the hovel of a laborer. The patient, an epileptic idiot, perfectly helpless from deformity of the feet and unable to speak or to feed himself, slept in a corner of the room, which was also used as a kitchen and sitting room for the family. His bed and bedding were in keeping with the place. For his care ninety-four centimes per day were paid.

The next house, near by, but facing on the main street, was quite similar, and the patients were two idiot girls who were utterly unable to appreciate anything.

The persons in charge of these houses were of a lower order than any I had before seen, but they seemed to appreciate the object of my visit and appeared anxious to make a good impression. That, however, was an impossible task, as this part of my visit was anything but pleasant, and sufficiently disagreeable to destroy all the favorable impressions of the first.

I learned that but few idiots were cared for in this section, which was intended for the better class, and that all but about ten were cared for in the other divisions.

Of course in such abodes as those just described, one could not expect to find facilities for bathing, and this appeared to me to be one of the most serious defects of the system. Those who are able and near enough are expected to go to the *Infirmérie*, at stated intervals, where there are bath-rooms, but the fact still stands

that the facilities for bathing are totally inadequate, and that there are hundreds in the colony who are entirely deprived of this important therapeutical and hygienic measure. Dr. Peeters has called attention to this deplorable condition, and has urged the necessity of the erection of suitable bathing-houses at covenient points. It is to be hoped that his suggestions may be soon adopted.

The food furnished the patients I did not see, but I was told that it was sufficient, though plain, it generally being the ordinary fare of the people with whom the patients live, consisting principally of coffee, bread, potatoes and pork.

My time was too limited to permit of a visit to the other sections, but as I was assured that I saw the better class, and enough to give me a very good idea of the system, my conclusions can not, therefore, be unfair, or do injustice to any one.

The patients whom I saw were, with one exception, either harmless chronic lunatics, who could have been accorded just as much liberty in any well-managed asylum; general paralytics and dements who had no appreciation of their condition; and chattering epileptic idiots, to whom certainly homelike surroundings were of no account. Even admitting that the first class are as well or better off in families than they would be in an asylum, I must enter an emphatic protest against caring for the second and third classes under such a system. To make use of the sentimental argument that such patients are happier under surroundings which most nearly approach home life is puerile, for, as has been said, they are not in a condition to appreciate their environment. And to claim that they are as well cared for in houses without any of the modern conveniences, by those whose intelligence, in some cases, seems but little above their own, as they would

be in a well-managed, well-constructed hospital under the immediate care of watchful physicians and skilled attendants, I can not believe to be the case from the evidence which my visit gave. I would not be understood as making the slightest insinuation against the skill or fidelity of the physicians in charge of the colony, but when there is but one physician to four or five hundred widely scattered patients, and when his visits are necessarily as infrequent as once a month, or even once a week, it is but natural to suppose that the humble people to whose honor, integrity and judgment so much is entrusted, may sometimes become careless and indifferent to the wants of their troublesome and helpless charges. We could not expect anything else from human nature. It is true that the guards make more frequent visits, but they can not be said to in any way compare with the daily or semi-daily visits of the medical officers in any well-managed asylum.

From an economical view the "family system" has some advantages, although they are not so great as they at first appear, as the *pro rata* cost of the support of the patients in the other Belgian asylums is much less than it is with us, and but little in excess of that at Gheel. From any other standpoint I do not think that any advantages can be justly claimed, as I am sure that I saw nothing in Gheel to lead me to believe that either the happiness or the comfort of the patients was in any way increased.

This plan has been tried to some extent in the north of Scotland, and I was told by those familiar with the subject that it had not proved as satisfactory as its projectors had supposed it would.

During my visit to Gheel I tried only to see things as they actually existed, and I regret my inability to speak favorably of all I saw, as it is much pleasanter to approve than to condemn.

SENILE MELANCHOLIA: ITS CHARACTERS AND PATHOLOGY.

BY J. HARRINGTON DOUTY, M. R. C. S., ENG., &C.,
Senior Assistant Medical Officer and Deputy Superintendent, Worcester County Asylum, England.

My object in this paper is to direct attention to an interesting form of insanity which may conveniently be called "senile melancholia," and to suggest a few thoughts as to its developmental pathology.

The condition may be described briefly as "a restless type of intense psychalgia, accompanied usually by fixed delusions, inedia, and thoracic organic lesions." In degree it is acute; in duration, chronic; whilst in many ways resembling certain stages of ordinary acute melancholia, it has nevertheless proper characters. The patient is as a rule thin, pale and haggard, and presents the general aspect of one in whose course through life, monotonous labour, difficulties and adverse events have reduced pleasure and ease to a negative quantity. In order satisfactorily to depict the symptoms of the mental disease, I can not do better than to describe briefly a case under observation in this asylum at the present time.

The patient, A. W., is a woman sixty-two years of age, a maker of nails. She is married and has five children. There is no neurotic heredity. Her work through life has been constant, of an extremely heavy and wearying nature, and badly paid. On admission here twelve months ago her weight was extraordinarily little, viz., 61 lbs.; it is now however 91 lbs. Her hair is grey, her skin wrinkled, and there is well marked *arcus senilis*; her muscles are all much wasted and she

looks much older than she is. Her face wears an expression of anxiety and terror, whilst it betokens weariness and exhaustion. She is markedly anæmic. Physical examination of her lungs reveals a general bronchitis of the smaller tubes; she coughs a good deal and when the weather is cold expectorates large quantities of aërated pus. Her heart is dilated, irregular and feeble, and there is a mitral systolic bruit. Her abdominal signs are normal; tongue pale and flabby and digestion imperfect. She is extremely depressed and deluded; believes that the devil is murdering her children day after day, and burning their corpses, because she, against his orders, takes food (or rather is fed by the nurses). When a meal is brought her, she will say: "No! No! my good creature, you don't know the misery it will bring; I can hear them screaming as he cuts them up, and can smell their flesh a burning; No! take it away; how can you be so cruel as to make me take it when the devil says I must not?" This is her tale day after day; her one desire is to be left to starve. She is generally aware of her insanity; she will say, for instance, during conversation, "I know my mind is very bad; but oh! you don't know the misery—it is worse than any man or woman ever suffered; can't you cure my mind?" She was taken one night to the weekly entertainment, but she groaned and wrung her hands the whole time, and said when she returned to the ward "it will all bring misery; that singing and dancing and clapping will make the devil heat his fire all the hotter to burn my poor children." Sometimes she jumps out of bed and runs up the ward screaming out "Oh! hark at my children—he's killing them, I know he is," whilst she trembles with terror. The sight of a nurse bringing her food often causes her to become intensely agitated, and to yell at the top of

her voice. She has many curious illusions; fancies, *e. g.*, that a railway whistle is the scream of some beast, and that the tramping of feet in the passage near, is a thunder-roll to destroy her children.

The treatment adopted has consisted of an abundant, easily assimilated diet; and hæmatinics, tonics, stimulants, sedatives, &c., have been given as occasion required. In spite, however, of the most careful nursing, and an occasional temporary improvement, her case will probably go on to a fatal termination; bronchitis and cardiac dilatation will end the scene. Such then are the symptoms which, varying in their details, are presented by cases of Senile Melancholia.

Professor Humphrey, of Cambridge, in an address recently delivered before the Medical Society of London, said: "——the main feature of the 'descending development,' the development from maturity onward, is a lessening of material, a lessening of activity and a lessening of strength, * * * * —and it is upon the well-ordered, proportionately or developmentally regulated decline in the several organs that the stages which succeed to maturity are safely passed, and that the crown of physical glory, a healthy old age, is attained." Given an imperfection in the functional achievements of one, and the functions of all the organs become imperfect in effect, their resultant falls below the normal, the health fails, the life is imperfect. In the case which I have cited above the sequence of events seems to have been this:—hard toil, pulmonary troubles, cardiac disease, imperfect nutrition and deficient oxygen supply to the brain, mental alienation. It would seem that, in these cases, the normal developmental processes of old age are interrupted; the balance of events amongst the nervous and general organs is disturbed, and things

can not take their normal course. The subjects of Senile Melancholia are usually persons prematurely old; they look older than their years, and their physical condition generally is far advanced in the "developmental" degenerations of old age. These degenerations are usually accompanied in the normal course of events by intellectual asthenia, and frequently by a dementia ultimately so profound as to render the individual quite childish in a blissful ignorance. Is not this dementing process as surely developmental in its nature and physiology as are the changes that accompany old age in the various tissues, and as is the normal lessening of the activity of the general organic functions?

Some hold as a truth that the supremest happiness consists in absolute unconsciousness; and there does seem to be a certain tendency towards such a strange theory in the passive happiness of age. The aged man who sits in his chair peaceful and quiet, knowing little of the events of the present, unable to worry about the future, smiles as he hears or tells of the far off years; the bereavements of later years and even of middle life do not any longer trouble him; he can only recollect the bright days of his youth and childhood. It is a question, whether even such a state is not associated with more of "happiness" than is one of complete unconsciousness. Whilst this last stage of conscious life, this stage of the gradual death of the intellect may be objectively imperfect and even unenviable, still the probabilities are that it is subjectively the best for the man; it is "developmental." It were not well that he should retain the full mental vigour of maturity and lose, as he must do, the physical strength and ability to fulfil the promptings of his mind; the two things are incompatible if a "happy" state is to result.

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If then, the decline in the several organs be "developmentally regulated," the final mental state, the stage which precedes death, is dementia. When the degenerations occur prematurely, when one organ, such as the lung, becomes chronically disabled and the respiratory and circulatory systems fall short, as a consequence, in their achievements, the balance of power is upset; some organs and tissues are just entering on the downward changes, whilst others are twenty years in advance of them. Thus it may be that Senile Melancholia is evolved. The mental faculties may be still active and may yield their supremacy obstinately, whilst physical strength and health are rapidly failing; there may be still abundance of power to think, abundance of power to will, but a sad deficiency in the mechanical media of action; and at last the "mind" gives way. The changes in the mental functions are not gradual, easy, physiological; they are rude in their method and abnormal in their amount; perversion replaces gradual diminution. The individual feels to be slipping from his grasp the power of maintaining a normal correlation with surrounding matter. There is repeated in fact in the "descending development" of the mental functions, the same loss of balance which has occurred in the general; and all this militates against a feeling of happiness. The patient is failing in general, and failing in mental health, but the failure is not in a normal ratio. He ought to be hardly conscious of his dwindling strength, nor should he notice the growing senile weakness of his mental faculties; he should pass gradually, unconsciously, and without regret into a dementia. Not so, however, in the cases under consideration; a knowledge of the grave state of things is clear; the patient knows his days of usefulness and

activity are over; he feels his mind yielding to the weight of trouble and increasing physical incapacity, and is even aware at last of his actual insanity.

What seems more probable than a condition of mental pain? What more natural than the substitution for normal dementia, of the abnormal melancholia?

In a short paper in the *Lancet*, 1884, I discussed the relations between melancholia and diminution of the oxygen supply to the cerebrum, and mentioned as a matter of every day notice the fact that recovery from ordinary melancholia depended largely upon the presence or absence of lesions, productive of anæmia or of imperfect circulation. The presence of such lesions is frequent amongst cases occurring in old age; as, however, in an old person they are of a degenerative and progressive nature, and can only end in death, so also, Senile Melancholia (with very few exceptions) terminates either in the mind's own grave, dementia, or more frequently in the general dissolution.

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CLINICAL CASES.

NOTES OF A CASE OF CEREBRAL TUMOR.

BY T. DUNCAN GREENLEES, M. B., C. M., EDIN.,
Assistant Medical Officer to the Cumberland and Westmoreland Asylum, Garlands, Carlisle, England.

The following case is of interest, both from the vagueness of the clinical symptoms and from the rarity of the position occupied by the tumour.

R. McC., æt. 68, of Irish extraction, was admitted to this asylum on 26th December, 1884, suffering from melancholia, this being his third attack of insanity. With respect to his previous history little is known, except that the supposed cause of his first attack was a blow on the head, but this occurred at least 44 years ago. In 1879 he was under treatment in this asylum for seven months, suffering from a mild attack of mania, when he was said to be eccentric, and to have delusions of bodily weakness. Nothing to indicate cerebral disease was found at this time.

State on Admission.—He was a miserable and dirty looking old man. Mentally he was dull, confused, and would scarcely speak; his expression was foolish, conversation hardly coherent, and his memory somewhat impaired. The superficial skin reflexes were diminished, pupils equal and contractile, and the movements of his tongue were normal. With the exception of some slight bronchitis no active physical disease was detected on examination. Pulse 92. Weight 119 lbs.

Progress of Case.—Dec. 31.—He is restless and will hardly remain in his bed during the night. Mentally he is in a dull and stupid condition; his speech is

incoherent, he understands little of what is said to him, and he takes no notice of what goes on around him.

January 2.—Although he is looking a little better in health, there is no improvement in his mental condition.

January 12.—He does not look so well to-day; his gait is unsteady, and he lies in a stupid state and can not be roused; evacuations are passed involuntarily. Although the pupils are equal, he looks as if he had had a paralytic seizure. A few crepitations are heard at bases of both lungs, but there is no marked dulness on percussion.

January 29.—Since last entry he has become more demented; his speech is thick and less coherent than it was, and, as he is unable to stand by himself, he is now quite bedridden. He occasionally suffers from hiccough.

February 10.—He has slight attacks of vomiting, which are always followed by protracted hiccough. No mental change to report.

February 20.—Patient is daily becoming more feeble, taking scarcely sufficient food and requires feeding. He is restless, dirty and destructive in his habits, constantly picking either his skin or the bedclothes. The chest symptoms, which had for a time disappeared, have again become prominent.

March 2.—He lies in a listless, semi-comatose state, and can scarcely be roused to take his food. Yesterday afternoon he had a series of "quivering fits," affecting both arms and legs. During the fit his eyes remained open, and he seemed in a less drowsy condition than at other times. He is looking much worse to-day and a bedsore is beginning to form over the sacrum.

March 8.—General clonic convulsions have been more or less constant since last entry, but in a slighter degree. He is becoming more feeble and collapsed,

taking no food, and on several occasions looked as if he were dying. The pupils are sluggish to the influence of light, but equal in size. The coma rapidly deepened and death occurred this evening.

Autopsy—37½ hours after death.

The body was somewhat emaciated; rigor mortis present; there was a small bedsore situated over the sacrum.

Head.—The skull-cap was hard but thin: diploë for the most part absent. The dura mater was firmly adherent over the vertex; it was thick and leathery in consistence. The posterior and lateral sinuses were filled with semi-clotted blood. The cerebral arteries, especially those at the base of the brain, were thickened and remained patent, but were not markedly atheromatous. The pia mater was now adherent; the outer portions of the brain were hyperæmic on section. On separating the two hemispheres a large infiltrating growth, about the size of a pigeon's egg, was found occupying the anterior half of the two lateral ventricles. The tumour was above the level of the optic thalami and corpora striata, but did not involve them, and although the new growth rested on the floor of the ventricles, it was possible to pass the finger inferiorly and laterally along the whole of the ventricles forwards to their anterior cornua.

The tumour involved, and appeared to grow from, the anterior portions of the corpus callosum and the corresponding part of the fornix. Fully one-third of the growth was anterior to the callosal body, involving the white matter of the frontal lobe, but did not reach its grey matter. In this portion there was no definite limit between the tumour and the surrounding brain tissue, which was soft and in places breaking down. Both hemispheres were apparently involved to a similar

extent. The tumour itself was of a dirty yellowish brown colour, highly vascular, lobulated on its free surface, hard to the feel, crisp and almost cartilaginous on section. Some portions, more especially towards the centre, were softened and apparently breaking down, and the anterior part had a honeycombed or cribriform appearance. The ventricles were scarcely, if at all, distended, and did not contain an excess of fluid. The cerebrum, with the above exceptions, was quite healthy, and upon an external examination of the brain there was no evidence of the presence of a tumour, nor was there any atrophy or want of symmetry in the convolutions.

The cerebellum, pons, and medulla were somewhat congested, but otherwise appeared normal. Weight of brain, 55½ oz.

The large intestines were considerably distended and contained masses of hard fæces.

Nothing worthy of note was observed in the other viscera.

Microscopic Examination of the Tumour.—The tumour appeared to be made up of three essential constituents: (*a.*) Small round corpuscles with granular contents about the size of a white blood corpuscle, staining well with carmine and logwood. (*b.*) Larger sized cells presenting several nuclei, which were not so markedly affected by the carmine, but stained well with the hæmatoxylin dye. (*c.*) Numerous spindle-shaped cells arranged in some places longitudinally and closely packed together, and in other portions of the tumour scattered irregularly among the other cells, or forming alveolar spaces, many of which were filled with one or other of the cellular constituents of the tumour. In addition there were many irregularly shaped cells probably embryonic or undeveloped spindle cells. Fat

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globules were here and there interspersed through the section, and there were a few minute particles of pigment—of a deep brown mahogany colour—in the neighbourhood of the vessels.

In many of the smaller arteries there was a cellular infiltration occupying a position between the muscular tunic and the outer fibrous covering of the vessel; the cells forming this infiltration were rounded in shape, and presented similar characters to the cells which made up the mass of the neoplasm. The vessels thus affected had their walls much thickened, and in some cases the muscular coat appeared to be entirely replaced by cellular elements. What apparently was a more advanced stage of this process was the gradual encroachment of the thickened walls upon the lumen, so that in many of the vessels the lumen was entirely obliterated, and the arteries thus affected had the appearance of solid fibrous bands.

The tunica intima of the larger arteries was wavy in outline, and many of the vessels were filled, some even crammed, with hæmacytes. There were many apparently developing vessels both in the cellular infiltration between the arterial coats and throughout the section generally.

In sections taken close to the healthy portion of the brain, the tissue in the neighbourhood of the tumour had a granular appearance, and was evidently breaking down. The tumour itself was highly vascular, although many of the arteries were quite obliterated.

Nothing unusual was observed in the minute anatomy of other portions of the brain which were examined.

Remarks.—It is to be regretted that during the life of this patient the presence of cerebral tumour was not suspected; hence I am unable to give the results of an

ophthalmoscopic examination. From the miscroscopic appearance the tumour was apparently sarcomatous in structure—the glio-sarcoma, or hæmorrhagic sarcoma, as described by Dr. Ross,* and the compact arrangement of the spindle-cells was no doubt the cause of the dense consistence the tumour had on section.

The position occupied by this growth is somewhat rare, and in the literature to which I have had access, I can only find the record of three cases in which the tumour occupied a similar situation. These cases were reported by Dr. Bristowe,† and although they presented symptoms in many respects not unlike those described above, there were some points of difference to which I shall refer. According to Bristowe the following were the more prominent symptoms presented by his cases: (1.) The gradual appearance of hemiplegia with slight paresis of the opposite side. (2.) The supervention of drowsiness and stupidity with difficulty in swallowing and impairment in speech. (3.) An absence, or nearly so, of headache or sickness—symptoms so common in intracranial tumours occupying other positions. (4.) All his cases terminated in drowsiness, passing into stupor, coma, and death without convulsions.

Comparing these symptoms with those presented by the case recorded above, we find that: (1.) Instead of hemiplegia there was a gradual onset of paraplegia—a paralysis not only affecting the limbs, but also the rectum and bladder, as shown by his loss of control over these viscera during life, and the distended and lax condition of the lower bowel found after death. (2.) The patient was stupid, demented and gradually became more and more drowsy; and although his utterance was thick and sluggish, it was never remarked

* A Treatise of the Nervous System, Vol. II., p. 551.

† "Brain," October, 1884, p. 315, et. seq.

that he had any difficulty in swallowing when he could be roused sufficiently to take nourishment. (3.) He suffered from severe sickness, but never made any complaint of headache; and there was, in the later stages of his illness, troublesome and protracted hiccough, which succeeded upon, and lasted for some time after, every attack of sickness—to this latter symptom Bristowe does not allude. (4.) In the presence of convulsions antecedent to the fatal coma the case differs from those described by Dr. Bristowe, for upon the absence of convulsions he lays some stress.

In cases of cerebral lesions, an explanation of the phenomena exhibited during life is to be found in the portion of brain implicated in the disease; and, from a study, clinical and experimental, of the localization of cerebral functions, we are often enabled to arrive at a fairly certain diagnosis in any case.

The corpus callosum—that portion of the brain most affected in this case—as "the great transverse commissure connecting corresponding regions of the cortex of both hemispheres" (Ferrier)—occupies the position of a centre through which nerve impulses pass from the cortical portion of the brain to the peripheral nerves, and interference with its functions from any cause must necessarily result in loss of power equally on both sides. The thickness of the patient's speech may be explained by ascribing it to paralysis affecting the muscles of articulation, such as the tongue, buccal and labial muscles; distinct aphasia was not present, and there was no direct involvement of Broca's convolution.

The differential diagnosis of such a case is somewhat difficult; thus it might be mistaken for hæmorrhage into the callosal body, but, according to Bristowe, its later progress would be sufficiently suggested to the

physician. Lesions affecting the medulla oblongata or its neighbourhood bear some resemblance in their symptoms to tumours implicating the corpus callosum, but early interference with the respiratory, as well as other vital, centres should assist us in our diagnosis.

There might be some difficulty in distinguishing between tumours in this position and some forms of general paralysis, but the inequality of the pupils and other symptoms so generally found in the latter disease ought to help us. It is difficult to say whether the injury sustained to this patient's head forty-four years ago had anything to do with the growth of the tumour: the long period of time elapsing between the injury and the onset of the symptoms renders it improbable that there was any relation between the two as to cause and effect.

TWO CASES OF OÖPHORECTOMY FOR INSANITY.

BY E. D. BONDURANT, M. D.,
Assistant Physician to the Alabama Insane Hospital, Tuskaloosa, Ala.

Case I.—M. M. was admitted to the Alabama Insane Hospital August 23, 1871, being then thirty-one years old, married, and the mother of four children. Of an inherited nervous temperament and since puberty had suffered from frequent attacks of hysteria, generally occurring at her monthly periods, and being aggravated by any casual derangement or irregularity of the menstrual function. In 1868 one of these attacks, of unusual violence and duration, was followed by slight and transient mental aberration, from which patient recovered without treatment. Her youngest child was born in December, 1870; during lactation, seven months later she menstruated, and immediately thereafter developed symptoms of mental derangement. Became jealous of her husband and convinced of his unfaithfulness, morbidly suspicious of relatives and friends; at times noisy, violent and unmanageable: was brought to the hospital a few days after commencement of attack, and in less than a week was quiet and giving no trouble, though her delusions and suspicions remained. She again became excited at next menstrual period, but a few days after its cessation began rapidly to improve, gave up all delusions and fears, became cheerful and sociable, to again relapse when flow returned, though symptoms were much milder in character than before. She continued in this way, seeming entirely well during intervals, and growing less and less nervous, irritable and despondent at periods, until March, 1873, when having experienced little trouble at

last sickness, she was allowed home on trial; continuing to improve, she was discharged in June following.

She remained well for four years, when, on October 25, 1877, she was returned to the hospital with essentially the same symptoms as at former admission. Her case ran the same course as before, except that her periods of comparative sanity were shorter, and she did not improve. The evident close relation existing between the function of ovulation and the mental symptoms led to the opinion, held by Dr. Bryce and concurred in by Drs. J. Marion Sims and Robert Battey, to whom a statement of her case was submitted, that the abolition of this function would probably result in an entire restoration to mental health. In March, 1879, she went to Rome, Ga., accompanied by her husband, where the operation of normal ovariotomy was performed upon her by Dr. Battey himself. She made a good recovery, and was returned to the hospital after convalescence was complete; began slowly to improve, the periodicity of her attacks being broken up, and all mental symptoms gradually subsiding. The ultimate result has not been so favorable as was hoped for, as her normal mental vigor and balance have never entirely returned. She remained in the hospital until September, 1884, when her husband took her home. From his letters we learn that she attends to her household duties, and to strangers gives little evidence of unsoundness of mind, though she is jealous and emotional, and retains traces of her former suspicions and delusions.

Case II.—P. C., admitted to the hospital March 7, 1876, æt. twenty-three, unmarried. Since childhood had been tormented by intense and almost constant sexual desire. Practiced self-abuse since her sixth year. Menstruation, from the time of first appearance, was

irregular and at times painful. Symptoms of mental alienation appeared about three years before her admission. By slow degress she became irritable, emotional, suspicious of all with whom she was thrown in contact, melancholy and despondent, with numerous unsystematized delusions of persecution. During convalescence from an attack of typhoid fever, she twice attempted suicide, but was not brought to the hospital until five months later. She soon developed into one of the most troublesome and disagreeable patients in the institution. Complained to every one who would listen to her of ill treatment by attendants; gave long and circumstantial accounts of immoral relations existing between the male and female employés, and accused the officers of attempting to violate her person at night. Her mind seemed to dwell upon sexual matters and she masturbated at every opportunity. All these symptoms were intensified at menstrual periods, and in great measure passed away during intervals. She remained in this condition, showing no tendency towards improvement, for six years, when it was decided that removal of her ovaries offered the only hope of cure. Not much was anticipated as to the nymphomania, since the sexual sense is not destroyed by ovariotomy, but it was expected that the monthly exacerbations would be arrested, the mental balance restored, and the abnormal passion held in check thereby. Dr. Battey accepted the invitation to perform the operation, came to the hospital and removed both ovaries on June 26, 1882. No disease or structural change was found in either organ. Patient recovered rapidly without an untoward symptom as to results. She improved greatly during the first year, so much as to be sent home on trial in the summer of 1883. She remained at home one month only, it being noticed that she became more nervous, uneasy and suspicious as

soon as she passed from beneath the restraining hand of asylum routine and discipline. She still suffered from intense sexual desire, but at intervals only, and masturbated rarely. During the past two years she has grown worse, melancholy, hysterical, has many delusions, and at times indulges her old habit of making accusations of immoral conduct against officers and attendants.

ABSTRACTS AND EXTRACTS.

GENERAL PARALYSIS AT THE AGE OF SEVENTEEN.—Dr. E. Régis publishes in *L'Encéphale* for September and October, 1885, the history of a case of general paralysis at the remarkably early age of seventeen, and appends an interesting commentary on the case. In a previous number of the same journal, Dr. Régis recently reported a case occurring in a young man nineteen years of age, when he advanced the opinion that if general paralysis occurred thus exceptionally before the twenty-fifth year, it was no doubt due to a powerful cause, such as heredity, syphilis, alcoholism, traumatism, general or local diathesis, &c., precipitating predisposition and placing the brain prematurely in anatomical conditions that properly belong to mature development.

The patient, an illegitimate son, was born in Bordeaux, November 9, 1864. His father had suffered several years from gouty rheumatism, and had lost his father and a brother from that disease. Patient's mother is a woman of forty, intelligent, in fair health, but very nervous, and subject to uterine hæmorrhages. She is a widow, but has had no children by her husband. Her brother died at the age of twenty-four, of strangulated hernia. They were both illegitimate children, though acknowledged. Their father, who died, at the age of sixty-five, of liver disease, married subsequently to their birth, and had by this wife two children who are alive and healthy. With regard to their mother (maternal grandmother of the patient), she died at the age of fifty-four in a state of profound melancholia, which had lasted four years, and supervened on the marriage of her paramour with another woman. Such is the genealogy of the case, a little complicated perhaps, but of which it must be especially borne in mind that the child is illegitimate, of arthritic stock in the paternal line, and grandson of an insane woman on the mother's side. Patient suffered from no infantile cerebral affection, and only had when a child an attack of small-pox of no gravity.

Put out to nurse from his birth, he was given at the end of three months to a second nurse. The first nurse was pregnant. What affection did he contract by contact with this woman? It is difficult to say positively, but according to all appearances, it was syphilis. At any rate at the end of three months, the physician ordered the nurse to take back the child to his mother. This latter found that he had had boils on various parts of his body, and especially on his legs. The physician called by her said they were soft chancres (?). The eruption was treated and soon cured by applications and baths. No other treatment was adopted.

At the age of ten, patient had a hæmorrhage into both eyes, and this accident occurred several times afterwards. At school he showed intelligence,

Four years ago, he was suddenly taken, without prodrome or accompanying symptom, with ptosis of the right lid which persisted, in variable degree, till his death. From this time he began to fail in intelligence, insensibly at first, then markedly, so that he gradually forgot all that he knew, and becoming quite incapable, was sent home at the end of the year 1881 to his mother by his schoolmaster.

For some months his state was stationary, but his mother having put him under hydrotherapeutic treatment, he became greatly disturbed, was sleepless, incessantly restless, and manifested a tendency to anger, violence and especially onanism. Finally, the embarrassment of speech, up to that time hardly perceptible, became from now on apparent to all.

The intellectual enfeeblement and the signs of paresis increased slowly but progressively, hastened perhaps by the practice of masturbation, which had become very frequent. In the month of July, 1883, the patient lost himself in the streets, and was found after a lapse of three days in the neigborhood of Blanquefort. He was now seen by Dr. Moreau, by whose advice he was placed in an asylum, August 4, 1883.

On admission the patient presented the symptoms of general paralysis in a well-marked form. He was demented, and had no delusions properly so-called. There were noticed a marked intellectual failure, particularly of memory, to the degree of forgetting his age and the names of those whom he knew most intimately; an absolute lack of appreciation of his condition, and perfect indifference to his environment. Physically there were: considerable embarrassment of speech—characteristic ataxo-paretic embarrassment accompanying the utterance of every word—veritable jerkings of the lips and facial muscles. The tongue presented a like tremulousness, and was projected in a jerking manner in the midst of a general trembling of all the neighboring organs. The pupils were sluggish, unequal, the right being much more dilated than the left. The upper right eyelid half covered the ball, which was red and secreted considerable muco-purulent material. The hands were tremulous and clumsy; the legs were weak and awkward, and gave to his gait a stamp of uncertainty. Writing had become almost impossible and the characters were formless. Finally, the patient had been filthy from time to time, and the indications favored a speedy supervention of complete relaxation of the sphincters. His habits of onanism persisted, and were indulged in a sort of automatic unconscious fashion.

Such was the clinical picture presented on admission, and from which it is impossible not to recognize a general paralysis already far advanced. A few days after admission, Professor Ball saw the case, and was struck with its rarity. Dr. Régis, suspecting cerebral syphilis, especially in view of the unilateral ptosis, instituted a thorough mixed treatment, that is to say, inunctions every second day over a quarter of the surface of the body with a mercurial ointment, and a daily potion of four to six grammes of iodide of potassium.

This treatment was but badly borne by the patient, and the inunctions especially were not long in exciting mercurial salivation without the least accompanying improvement in his condition. On the contrary, he became continuously filthy, and in every way worse, so that on October 13, two months after admission, his mother took him home. Recourse was had to a derivative and revulsive treatment, consisting of mild purgatives frequently

repeated, and the application of a permanent blister to the nuchæ, after which a seton was introduced at the same point. Phosphate of lime was given internally. From this time, probably under the influence of the medication, the patient improved slightly in so far that his symptoms of failure diminished in itself, walking became possible, and he ceased to be filthy. The remission lasted but a few months however; soon the disease resumed its course, and went on to the stage of terminal cachexia. This period of cachexia, apart from the usual symptoms and especially a few congestive shocks of an apoplectiform type which occurred from time to time, presented certain uncommon phenomena, which it seems proper to mention. Thus towards the end of the patient's life, there supervened epistaxis more and more frequent and more and more abundant, accompanied by the hæmorrhages into the right eye, which occurred from time to time from his childhood. And even when the patient had become bed-ridden, certain exposed portions of his body, such as his elbows, the nuchæ and the dorsal region, presented not the usual sloughs of general paralysis, but actual ecchymotic pockets, which on opening discharged a certain quantity of sanguinolent fluid. Dr. Moreau further observed, during this final period, great headache accompanied by almost incessant cries, especially at night.

The patient died of marasmus in December, 1884, that is to say, about four years after the onset of the disease. It is to be regretted that an autopsy was unobtainable.

Remarks.—Several questions are raised by this case. In the first place I will mention the least important in order to give greater attention to the age of the patient, which seems to me to take precedence over all others. I would first call attention to the existence of numerous arthritic ancestors, adding that I have already had frequent occasion to observe this peculiarity, which seems to indicate, in conformity with the views of Bazin, a certain analogy between the arthritic diathesis and cerebral disease. In the second place, I would note the eye symptoms, and particularly the ptosis, which occurred before any other symptom. I have several times observed this accident in syphilitic patients for a longer or shorter period before the invasion of the symptoms of meningo-encephalitis, sometimes six months, sometimes several years previously. Our eye specialists must frequently have had occasion to observe this fact, which seems to establish a relation between specific and paralytic accidents, and which may put us on our guard in any case against the subsequent evolution of general paralysis in syphilitic patients.

In this connection I would also call attention to the inefficiency of the specific treatment in our patient. It may be objected that it is not absolutely averred that the subject was syphilitic. Very true, but many a time I have observed this negative result in the treatment of general paralytics who were manifestly syphilitic,

and I am convinced that many of my colleagues have had a like experience. Now this absolute inefficacy of treatment in these cases is to be contrasted with its as it were miraculous efficacy in certain others, to all appearances similar, and in which one sees the gravest symptoms improve or disappear, as if by magic, at the end of a few days. Whence this radical difference in the effect of treatment in conditions apparently identical?

Are there really cases more amenable than others to therapeutic action, or must it be admitted that in cases where medication remains absolutely without effect, syphilis has nothing to do with the development of the disease, and that it is not a question of a general paralysis or of a pseudo-general paralysis of syphilitic origin, but, what is very different, of a true general paralysis supervening in a syphilitic patient without the intervention of the specific diathesis. Both hypotheses are plausible, but the question can not but be difficult of decision. This question of the relation of general paralysis to syphilis is at the present day one of the most obscure and most controverted in cerebral pathology. It would seem necessary to concede with Professor Fournier two quite distinct orders of facts. 1. True general paralyses, classic, which have supervened in syphilitic patients, more or less completely outside diathesic influence, and which develop in a normal manner without being in the least improved by anti-syphilitic treatment. 2. Syphilitic pseudo-general paralyses, that is to say, cerebral conditions offering all the characters of general paralysis, but susceptible of improvement, and even of more or less rapid recovery under the influence of the same treatment.

To return to our patient, I would recall certain uncommon phenomena in general paralysis, which in his case marked the termination, and especially the violent headaches, likewise the spontaneous hæmorrhages into the eye, nasal mucous membrane, and subcutaneous cellular tissue. With reference to these last symptoms, I, for my part, have never observed them, and I only find mention made of something similar in a case reported by Dr. Christian, which presented simultaneously a hæmatoma auris and purpura hæmorrhagica. Dr. Savage also cites, in a recent pamphlet, cases of abundant hæmorrhage into the subcutaneous cellular tissue, developed as the result of slight traumatisms in general paralytics, and comparing these facts with the tendency to hæmatoma observed in these cases, he concludes that there exists a dyscrasia of the blood and a friability of the small vessels in

general paralysis. By a like mechanism perhaps the hæmorrhagic phenomena observed in our patient were produced.

With regard to the age of the patient, it is needless to remark how exceptional it is to observe a case of general paralysis at the age of seventeen, a disease so intimately associated with adult life, and which appears so to speak, to be inseparable therefrom. The rarity of premature general paralysis seems to become less and less exceptional, and numerous cases have been recorded as occurring under twenty-five, and even, as in this case, under twenty. Several foreign journals, among others the *Journal of Mental Science* and the *Alienist* and *Neurologist* have recently published examples, while but a few years ago there was not a single case on record, and the best authors, such as Bayle, Calmeil, Marci, Luys, affirmed that they had never seen a case before the age of twenty five. The fact that early cases of general paralysis are becoming less rare would certainly have no important significance in itself, did it not appear to be intimately associated with two other facts of the same order, to wit, the progressive lowering of the average age at which general paralysis occurs, and the ever increasing frequency of this affection. The lowering of the average age is undeniable. It is only necessary to consult earlier authors to see that the majority of their cases occurred in patients aged forty, fifty years and more, while to-day the published cases show them to be younger. Moreover the average age fixed at forty-five and even fifty in the time of Bayle and Calmeil has since become sensibly lower till, for my part, I have found it to be thirty-eight in 317 general paralytics under observation at St. Anne. This is also Dr. Julius Mickle's experience. In some asylums a third of all the male patients are general paretics.

From these data I think we must conclude that all degenerative affections of the nervous system, of which it constitutes, so to speak, the type, seem to spread from day to day, at least in man, to resolve themselves more and more into morbid entities, to acquire an ever increasing importance, in a word, tend to invade little by little the pathology of the nervous system and to predominate over insanity properly so-called—madness.

It is a singular fact that simple madness has existed from all time, at all periods, as well in the most barbarous countries and in the most primitive states of society as among most civilized peoples, and that, contrarily to the general belief, it does not undergo in any well-defined manner the fluctuations of civilization,

any more than the influence of revolutions and social disturbances. On the contrary the affections of the nervous system called degenerative, general paralysis, scleroses, *ramollissements*, entirely unknown at first, seem only to become really frequent in states of society where civilization has attained its maximum, and has carried intellectual development to the highest point. From this time these affections seem to increase in direct ratio to the advance, already excessive, of civilization, while simple madness remains, as it were, indefinitely stationary. That is, indeed, a danger to be noted and well worthy the attention of all.

Certainly I would not push my deductions too far nor show myself as pessimistic as the English author Mickle who, after having noted this lowering of the average age of general paralytics, adds that "this impression, if correct, would speak ill for the vitality of the peoples of the West of Europe, as far at least as the disease may be deemed analogous to a prodigal wasting of vital power, and premature senility; the early attainment of old age in the individual members of a race being the forerunner and prophet of its imminent decay." It is impossible, however, for me not to insist that these facts have their significance.

Having pointed out the danger, it would be proper to suggest the remedy, but one can easily understand how difficult, not to say impossible, it would be to formulate precise indications destined to stem the pathological current or to avert it. That would involve a complete study of social psychology and hygiene, and I, for my part, confine myself to singling it out here, among the neurological questions of the day, as the one that most merits attention.

Double-Barrelled Madness.—The rash experiment of putting firearms in the hands of lunatics, upon which we commented some time ago, has, we are informed, already been attended by a sad fatality. The authorities of the Crichton Royal Institution, Dumfries, having come to the astounding conclusion that shooting parties would form a suitable feature in the treatment of the better-class insane, now rent Kirkmichael House and shootings, some eight miles distant, and send thither relays of patients for change and recreation, shooting and fishing being amongst the attractions advertised. About the middle of last month, as we are informed from most reliable sources, a young gentleman, aged about twenty-one, who had arrived only some

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four or five days previously for treatment, joined one of the shooting parties. It is said that he strayed away from his companions in a wood; a report was heard, and he was found lying shot in the head, and a few hours afterwards expired. No public investigation appears to have been held, or any account of the sad occurrence to have been published in the local papers. The police authorities, however, are stated to have investigated the matter, and to have come to the conclusion that the unfortunate occurrence was the result of an accident, and was not a case of suicide. Doubtless the Procurator Fiscal was fully satisfied on the matter, and no individual was to blame for a not uncommon accident—loss of life by the accidental discharge of a gun. But seeing that it is a system—and, as we have no hesitation in saying a most dangerous and ill-advised system—that is on its trial, surely the utmost publicity should be given to such a case. We have always advocated that lunatics should be allowed the greatest possible amount of freedom that is consistent with their own safety and that of others. But the insane, even the most chronic and apparently harmless cases, are but seldom to be entirely trusted, and the idea of putting in their hands such a deadly toy as a gun would be worthy only of their own distorted imaginations. We cannot help thinking that if such a case had occurred in England, it would have been left to us to bring the fierce light of public opinion to beat about this matter. What have the Scotch Lunacy Commissioners to say? Can they not condemn and check a sport which thus, misused, has untold (though only too soon likely to be realized) perils? If not, we may soon expect to hear of parties of lunatics being sent as a recreation to gather samphire, of their being usefully employed in the manufacture of dynamite, or specially engaged in the dispensing of poisonous drugs! The matter is a most serious one, and attention should be drawn to it in the new Parliament.—*The Lancet*, December 12, 1885.

Aphasia from Mental Blindness.—Of the forms of aphasia taken in its widest sense two may be said to fall under the head of incapacity of transmission, and two under the head of incapacity of reception. The first two are motor, viz., the incapacities of putting into sounds the words which can be imagined, or of putting into written shape the word which can be spoken (agraphia); the second two are sensory, viz., the

incapacity of getting any idea of a word from either ear or eye, from sound or sight, mental deafness and mental blindness to words. Ribot has helped to show that there is not a memory for words *per se*, but a memory which is with some people visual and with others auditory; some in remembering a word recall its written or printed look, and some its spoken sound. Prof. Bernheim gives in detail the account of a case of partial aphasia lasting over a long time, in which there was another and more special element, viz., no physical blindness but a mental incapacity to recognise from sight, at any rate, what things were (*cécité psychique des choses.*) It was in a man aged sixty-three, of healthy antecedents. In May, 1883, he had some hidden cerebral symptoms followed very soon by incomplete left hemiplegia (with slight primary contraction passing off in a few days), left hemianæsthesia and hemianalgesia and left lateral hemianopia of both eyes. During the next two years, up to the time of the report, slight loss of power on the left side continued, with the hemianopia as before, and occasional attacks of Jacksonian epilepsy intervened. A few months before the onset of his cerebral symptoms a small tumour had been removed from his eyelid, and it seemed at first probable that his brain injury was due to a similar tumour in it; but the almost completely stationary character of his state during the next two years rendered this ultimately very unlikely. That the internal capsule must have escaped serious injury was to be gathered from the rapidity with which he recovered from the hemianæsthesia and the slight early contraction and exaggeration of reflexes. He was a left-handed man in all actions except writing, which he had been obliged to learn with his right hand, and which he could still execute after his brain symptoms were developed. But he could not read what he wrote, nor any print, nor could he recognise more than one or two out of many drawings of simple objects. He could add and multiply, and recite the days of the week and the months of the year, and keep up a conversation which was in most points natural enough, but when he was shown simple objects it became obvious that he did not recognise them; a glass, he said, was a bar, a loaf was a saltcellar, a book was a crust for a pie, a crucifix was a catechism, and so on; a knife he would recognise one week and the next he would say it was a key to make soap. And that this was due to want of recognition, not merely the result of inability to use the right names, he would show by his actions. He was asked what a bunch of keys was, and he said at once that it was

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incapacity of getting any idea of a word from either ear or eye, from sound or sight, mental deafness and mental blindness to words. Ribot has helped to show that there is not a memory for words *per se*, but a memory which is with some people visual and with others auditory; some in remembering a word recall its written or printed look, and some its spoken sound. Prof. Bernheim gives in detail the account of a case of partial aphasia lasting over a long time, in which there was another and more special element, viz., no physical blindness but a mental incapacity to recognise from sight, at any rate, what things were (*cécité psychique des choses.*) It was in a man aged sixty-three, of healthy antecedents. In May, 1883, he had some hidden cerebral symptoms followed very soon by incomplete left hemiplegia (with slight primary contraction passing off in a few days), left hemianæsthesia and hemianalgesia and left lateral hemianopia of both eyes. During the next two years, up to the time of the report, slight loss of power on the left side continued, with the hemianopia as before, and occasional attacks of Jacksonian epilepsy intervened. A few months before the onset of his cerebral symptoms a small tumour had been removed from his eyelid, and it seemed at first probable that his brain injury was due to a similar tumour in it; but the almost completely stationary character of his state during the next two years rendered this ultimately very unlikely. That the internal capsule must have escaped serious injury was to be gathered from the rapidity with which he recovered from the hemianæsthesia and the slight early contraction and exaggeration of reflexes. He was a left-handed man in all actions except writing, which he had been obliged to learn with his right hand, and which he could still execute after his brain symptoms were developed. But he could not read what he wrote, nor any print, nor could he recognise more than one or two out of many drawings of simple objects. He could add and multiply, and recite the days of the week and the months of the year, and keep up a conversation which was in most points natural enough, but when he was shown simple objects it became obvious that he did not recognise them; a glass, he said, was a bar, a loaf was a saltcellar, a book was a crust for a pie, a crucifix was a catechism, and so on; a knife he would recognise one week and the next he would say it was a key to make soap. And that this was due to want of recognition, not merely the result of inability to use the right names, he would show by his actions. He was asked what a bunch of keys was, and he said at once that it was

used to make marks with, and he took a key and made motions with it as if it had been a pen; then he saw or felt that that was not its right purpose and was puzzled and tried to sow corn with it as he said he had done thousands of times before, but was again dissatisfied. Bernheim made the motion of opening a lock, but he gained no information from that; then he asked him, "What do you use to unlock a door?" and at last he caught the auditory suggestion and said, "A key, of course; this is a key." Bernheim conceives a centre of visual memory in the inferior parietal lobule, and a centre of auditory memory in the first temporo-sphenoidal convolution, interconnected by at least two paths, and connected each more intimately with a centre of simple vision and a centre of simple hearing (*audition brute.*) In the patient under discussion it is to be imagined that the normally intimate connexion of the visual memory with the centre of simple vision was nearly gone, and that the visual memory could as a rule only be reached after considerable difficulty by a path which was unusual in this particular subject, viz., through the hearing and the auditory memory. The verbal amnesia arose, in fact, from a mental incapacity to recognise things in general by sight, and this suggests that probably there are also cases in which there is a similar incapacity to recognise things in general by hearing, which leads to a similar verbal amnesia.—(*Revue de Médecine*, August, 1885, and *Practitioner*, December, 1885.)

The Standard of Sanity.—In an article on this subject in the *British Medical Journal*, November 28, 1885, Dr. William R. Huggard, viewing insanity as a legal or social, rather than a medical term, defines it as "any mental defect that renders a person unable (and not capable of being made able by punishment) to conform to the requirements of society." The popular view that insanity is something definite and absolute must, he thinks, be looked on as a fallacy of suppressed correlative; in other words, insanity is not something fixed and definite, but relative to the requirements of society—the standard of sanity in the class to which the person belongs. Thus, a Fijian regards murder as a claim to glory, thieving is a virtue amongst the Patagonians and Comanches, and chastity would be considered a vice by the Creeks, the Chinooks, and the Andamans. Therefore, even if, in these peoples there were disease, Dr. Huggard is of opinion that the question of insanity could not arise in regard to a

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With regard to the standard of insanity in England, opinions differ. There are those who think that any one who, by reason of mental defect, is a detriment to the public welfare, should be under efficient supervision and control, though not necessarily in an asylum. Others hold that only homicidal or suicidal lunatics should be confined, and the emphatic assertion has recently been made by an English lawyer that no one should be put in an asylum unless he would commit murder if at large.

To the question, What would happen if asylums were cleared of all but dangerous lunatics—lunatics likely to do violence against themselves or against others? Dr. Huggard answers: "The damage to society from the insanity so turned loose would be threefold: First, the damage to individual members of society directly, in squandered property, in libelled character, and in ruined peace; secondly, the detriment to the patient himself in lessened comfort from less suitable surroundings, in diminished chance of recovery, in pecuniary ruin, or in premature death; thirdly, and lastly, the damage inflicted on society generally by the lowering of the standard of sanity.

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have indirectly, murders, suicides, drunkenness, and other crimes arising on the one hand from the feeble self-control, and on the other hand, from the greater friction. Moreover, the insane are frequently so obscured in thought and in act, that if at large, they would inevitably render themselves amenable to the penal laws. But punishment will not hold madness in check; and the sane would be goaded by the madness they suffered from their neighbors to take the law into their own hands. Private revenge would take the place of public justice. The national character would undergo a degradation wider and deeper than a superficial view would lead one to suppose; and we should have a return of the social disorder that characterised this country in by-gone centuries."

The governing principles in determining the standard of insanity is the protection of the public and the protection of the insane. And by the protection of the public is meant by Dr. Huggard, not merely protection from bodily violence, but the protection of all that makes life worth living; the protection of the insane meaning that only such restrictions shall be imposed upon them as may be necessary for their own good, or for the public safety.

Dr. Huggard's views are summarized thus: "Sanity is commonly judged by an erroneous standard, the standard of mental health; whereas it ought to be judged by the standard of social capability. On the one hand, many persons not in good mental health are far from being insane; and, on the other hand, there are many persons who are normally so much below the average in mental function, that they can not be regarded either as able to take care of themselves in a country like this, or as devoid of danger to the public."

Syphilis and General Paresis.—Dr. Wm. B. Goldsmith says (Boston Med. and Surg. Journ., Nov. 5, '85) that among 126 male and 28 female general paretics treated at the Danvers Lunatic Hospital since his superintendency, 36 men and 11 women were known to have had syphilis, or nearly one-third of the whole number. Thirty-two of these 151 cases were Irish, which shows that their comparative immunity from the disease does not perish in this country, though their proportion to the whole number of paretics is somewhat smaller than it is in the entire hospital population. Dr. Goldsmith thinks that these statistics unquestionably show very much less syphilis than actually existed, as

the physician often fails to obtain any accurate history in this particular from patients of the class which constitute the greater part of the population at Danvers, and he was careful to include only those in whom the evidence of this disease was fairly convincing. In five hundred other patients taken consecutively from the same record books, paretics being excluded, syphilis was found to be more than six times less frequent.

PARALDEHYDE SUPPOSITORIES have been employed as a hypnotic in several insane asylums, according to Dr. A. Sauter (Der Fortschritt, August 5, 1885,) with the most satisfactory results. Each suppository should contain one gramme (15 grains) of paraldehyde, and they may be made by allowing the paraldehyde to solidify in a glass bottle in a water bath, with twenty per cent. of paraffine, and this gelatinous mixture introduced into the suppositories.—*Therapeutic Gazette, Oct.* 15, 1885.

COCAINE IN THE MORPHINE HABIT.—Smidt and Rank, physicians of a prominent German Morphine Institute, confirm the value of cocaine in the cure of the morphine habit (*Berl. Clin. Woch.*, Sept. 14, 1885). Their testimony and conclusions are formulated as follows:

1. Cocaine is a highly useful and almost indispensable factor in the cure of the morphine habit. It facilitates and shortens the latter materially, without exerting any untoward secondary influence upon the patient.
2. The principle of cure consists in exhibiting morphine in decreasing and cocaine in increasing doses.
3. Cocaine acts best when exhibited subcutaneously in a five per cent. watery solution.
4. The ordinary dose is ½ gr. and may be increased to 1¾ gr. though 3 grs. ought not to be exceeded.
5. A cocaine habit has never been noted to occur.—*Ibid. Nov.* 16, 1885.

CANNABIS INDICA AS A NARCOTIC.—Dr. H. Lewis Jones (*The Practioner*, Oct., 1885), praises this drug as a sleep-producer,

especially when sleeplessness is accompanied by delirium. He thinks it important to give it in sufficiently large doses. Two to three grains of the extract can be taken in the form of pill every four or every six hours: frequently the first dose is sufficient. He prescribes it as routine treatment in all cases of delirium tremens coming under his care, whether simple or complicating injury or disease. In a typhoid fever case with much sleeplessness, in an excitable young woman, there was complaint of hallucinations. It caused her to see visions of beautiful gardens and the like. Dr. Lewis has heard of one case where two grains of the extract were said to have made a woman "temporarily quite mad." In his own case doses of the extract up to four grains produce a mild narcotic effect, the only abnormal sensations noticed being numbness of the extremities and slight mental confusion.

Heart Disease and Insanity.—The following summary and conclusions (*Journal of Mental Science*, October, 1885), are from a prize essay by Dr. T. Duncan Greenlees, of the Cumberland and Westmoreland Asylum, Garlands, Carlisle, an analysis of which is given elsewhere in this Journal.

1. Heart disease occurs with greater frequency among the insane than among the sane.

2. Increase in frequency is in part regulated by the frequency of heart disease among the sane population in the vicinity of the asylum where the observations are made.

3. Heart disease is more frequent among the insane in the counties where the ratio of the insane to the sane is the greatest.

4. The distribution of heart disease among the sane is regulated by the geographical position, dietetic and other influences acting as predisposing causes. Similar conditions appear to exercise an influence over the frequency of heart disease in the insane.

5. The numerical difference between heart disease in the sane and the insane, if considered over all, is not great, being 8.72 per cent of the total deaths in the former, and 9.36 per cent on the latter.

6. Heart disease is present in 2.94 per cent of the living insane, and is the cause of death in 13.51 per cent. Both on admission and at death the age of the greatest number who had heart disease was between sixty and seventy.

7. The clinical symptoms of mitral regurgitation in the living

insane, and mitral disease with left-sided hypertrophy post-mortem, are the most common affections.

8. The hearts of the insane are heavier than those of the sane, and this condition is more especially noted in general paralysis, where the heart is very frequently hypertrophied.

9. In many cases of insanity the general circulation is sluggish, and the extremities are cold, livid, or even swollen. This condition occurs most frequently in cases of chronic or advanced types of insanity.

10. The arteries are frequently affected in the insane, but, with respect to the age, atheromatous degeneration of the arterial coats does not appear to occur earlier than among the sane. In general paralysis, however, thickening of the arterial tunics, or even atheromatous degeneration of the cerebral arteries, occurs quite indifferently of the age of the patient, and appears to be influenced more by the duration of the disease than by the age.

11. Among the sane, heart disease appears to exercise an important influence on the mind, changing the temperament and altering the character of the patient, and this change may become so prominent that the psychical phenomena exhibited may be those actually of insanity.

12. Not only does heart disease alter the type and delusions of insanity, but also some cases occur among the insane, in whom the only ascertained predisposing cause of the mental aberration is the diseased condition of the heart, or general derangement of the circulatory system, and that, in these cases, the cardiac lesion is, no doubt, the predisposing cause of the insanity.

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REVIEW OF ASYLUM REPORTS FOR 1884–85.

Biennial Report of the Alabama Insane Hospital at Tuscaloosa, for the years ending 30th September, 1884. P. BRYCE, M. D., LL. D., Superintendent.

At date of last biennial report there remained in the hospital 417 patients. Admitted since, 455. Discharged recovered, 127; improved, 26; unimproved, 15; died, 74. Remaining September 30th, 1884, 630.

The past biennial period was a remarkably prosperous one for the asylum, showing as it does an increase of 213 in the number of patients under treatment. The demand for space followed the supply of the two new sections for which an appropriation of $100,000 was made by the Legislature in 1881. The building for men was completed and opened July 1, 1883, and that for women April 1, 1884. The asylum can now comfortably accommodate 750 patients, and it is expected that with the present enlargement of the building all demands for the admission of white patients will be satisfactorily met for many years to come. Further accommodation is necessary, however, for the colored insane. For several years the two detached one-story buildings set apart for their use have been crowded. They accommodate each between forty and fifty patients only, and one need but reflect that this is the only hospital for the insane in the State of Alabama, to appreciate the immediate necessity for provision for a much larger number. Until such provision is made possible by State appropriation, very many colored insane must be confined in county jails pending the occurrence of vacancies, or, what is worse, be allowed to wander at

large. We believe it to be the experience of Alabama alienists that insanity is on the increase among the colored population of the State, and that the recovery rate among them is low. It would seem therefore to be a humane measure to reclaim as many as possible by prompt and proper treatment, and the State of Alabama, so generous heretofore in her charities, will surely not turn a deaf ear to the pressing claims of this class.

Dr. Bryce is to be congratulated on the admirable management and discipline of his institution. Employment plays, as it should, an important part in the treatment, and one sees but few unoccupied patients in the wards. A novel feature—available however only in southern asylums– is the use of carding and spinning to occupy, in simple mechanical work, women of small mental vigor. Knitting-bees are also held in the wards of evenings, and industry is occasionally rewarded in a special way by the giving of small tea parties, at which the matron presides. The asylum is fortunately situated in a rich coal region and has its own coal pit. Thus gas can be profitably made on the premises, and a clayey soil makes easy the manufacture of machine-made bricks. A large reservoir has recently been built, and by new arrangements an abundant stream of water could be delivered on any portion of the building in case of fire.

For three consecutive terms, the Board of Trustees has continued Dr. Bryce in the position of Superintendent, thus recognizing praiseworthy work done in behalf of the insane of Alabama for a period of twenty-four years.

Report of the State Lunatic Asylum, Austin, Texas, for the year ending October 31, 1885. Dr. A. N. Denton, Superintendent.

There were in the asylum at date of last report, 555 patients. Admitted since, 208. Discharged recovered,

107; improved, 16: unimproved, 11; not insane, 2; furloughed, 3; escaped 6; died, 63. Remaining Oct. 31, 1885, 555.

The Superintendent justly complains of the overcrowded condition of the asylum—an overcrowding which the completion of the new hospital at Terrell has failed to relieve. The increase of admissions is attributable, Dr. Denton thinks, to an effort on the part of the county officials to relieve themselves of the care of the chronic insane, who have been accumulating for years past. This official zeal is, to our certain knowledge, not universal in the State. Not many weeks ago the writer was in San Antonio, Texas, and there found that a lamentable state of affairs obtained in the almshouse of that city. A strong young German, an acute and apparently curable case, was left pretty much to the mercy of inexperienced attendants, and cared for (?) in the most primitive manner. A dement wallowed in filth in a neighboring and furnitureless room, and he learned that but a short time previously there had been confined in a similarly bare apartment, next to the mule-stable, an unfortunate woman who might, had she elected, have clambered over the too short partition that was designed to prevent access to the better housed animals in the stable. The hands of the visiting physician were tied, the policy of the poor authorities of San Antonio being apparently to shorten life by privations and relieve the city of a pecuniary burden that is unwillingly borne. And even where the best intentions prevail, delay occurs in placing patients under proper treatment, from the fact that a jury must be empanelled to try every case of alleged lunacy before commitment to an asylum.

Dr. Denton thinks that insanity is increasing in greater ratio than the increase of population. This

increase he attributes to the shipment to Texas of persons who, if not actually insane, are so enfeebled by privation and want for successive generations, that their weak physical and nervous organizations become deranged from very slight exciting causes.

The propriety of building an addition to the asylum for the colored insane is dwelt upon. It is to be hoped that the State will vote an appropriation for this purpose. The writer was painfully impressed, during a recent visit to Austin Asylum, by the totally inadequate provision for the colored women especially, and the necessity for a new building for them can not for a moment be questioned.

The superintendent reports a fire as having occurred on October 30th. Flames were discovered issuing from the roof of the stables about 1.30 A. M. Adequate means for extinguishing the fire were not at hand, and the building with most of the farm property therein contained, was consumed. The damage is estimated at $3,270. A farm with farm stock has been added to the hospital during the year.

An epidemic of dengue invaded the asylum in October, and about one-half of the patients and nearly all the employés were stricken down with the disease. Though dengue is rarely fatal in the absence of complications, a considerable number of broken down, bedridden patients were unable to withstand the shock and died. Dr. Denton's optimism finds expression, in this connection, in the reflection that inasmuch as "to this class of unfortunates life is only a grievous burden, there is scarcely room for regret."

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The Superintendent justly complains of the overcrowded condition of the asylum—an overcrowding which the completion of the new hospital at Terrell has failed to relieve. The increase of admissions is attributable, Dr. Denton thinks, to an effort on the part of the county officials to relieve themselves of the care of the chronic insane, who have been accumulating for years past. This official zeal is, to our certain knowledge, not universal in the State. Not many weeks ago the writer was in San Antonio, Texas, and there found that a lamentable state of affairs obtained in the almshouse of that city. A strong young German, an acute and apparently curable case, was left pretty much to the mercy of inexperienced attendants, and cared for (?) in the most primitive manner. A dement wallowed in filth in a neighboring and furnitureless room, and he learned that but a short time previously there had been confined in a similarly bare apartment, next to the mule-stable, an unfortunate woman who might, had she elected, have clambered over the too short partition that was designed to prevent access to the better housed animals in the stable. The hands of the visiting physician were tied, the policy of the poor authorities of San Antonio being apparently to shorten life by privations and relieve the city of a pecuniary burden that is unwillingly borne. And even where the best intentions prevail, delay occurs in placing patients under proper treatment, from the fact that a jury must be empanelled to try every case of alleged lunacy before commitment to an asylum.

Dr. Denton thinks that insanity is increasing in greater ratio than the increase of population. This

increase he attributes to the shipment to Texas of persons who, if not actually insane, are so enfeebled by privation and want for successive generations, that their weak physical and nervous organizations become deranged from very slight exciting causes.

The propriety of building an addition to the asylum for the colored insane is dwelt upon. It is to be hoped that the State will vote an appropriation for this purpose. The writer was painfully impressed, during a recent visit to Austin Asylum, by the totally inadequate provision for the colored women especially, and the necessity for a new building for them can not for a moment be questioned.

The superintendent reports a fire as having occurred on October 30th. Flames were discovered issuing from the roof of the stables about 1.30 A. M. Adequate means for extinguishing the fire were not at hand, and the building with most of the farm property therein contained, was consumed. The damage is estimated at $3,270. A farm with farm stock has been added to the hospital during the year.

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Report of the Western Lunatic Asylum of Virginia, for the biennial term ending September 30, 1885. Dr. A. M. FAUNTLEROY, Superintendent.

At the date of last report, October 1, 1883, there were in the Asylum 539 patients. Admitted since, 297. Discharged recovered, 128; improved, 14; unimproved, 5; not insane, 1. Died, 78. Remaining September 30, 1885, 610 patients.

On April 15, 1884, Dr. Fauntleroy was re-instated in the office of superintendent. The biennial term began under another régime on October 1, 1883, and so continued until Dr. Fauntleroy's re-accession to office. Opportunity is thus afforded the superintendent of contrasting the record of the two periods of the year anterior and ulterior to April 15, 1884. It appears that the admissions were very nearly equal in number, though the duration of the first period exceeded that of the second by a month and a half. The maximum number in the household during the second exceeded that of the first by a month and a half. The daily average of the second period also exceeded by fourteen that of the first. The discharges by recoveries, deaths and removals, aggregated for the two periods respectively 41 and 62, affording respectively a ratio of recoveries to admissions of 26.47 per cent, and 56.92 per cent. The percentage for the latter period more than doubles that for the previous six and a half months of the year. The superintendent gives these figures, "not as a boast, but for the information of the numerous friends and patrons of the asylum throughout the State, affording, as they do, gratifying evidence of the asylum's steady advancement in usefulness and prosperity."

Our limited space precludes more than the mere statement that many improvements, structural and

other, have been made during the biennial term, but we may be permitted to assure Dr. Fauntleroy of our sympathy in his work and of our appreciation of the value of his services to the State of Virginia.

Sixty-Second Annual Report of the South Carolina Lunatic Asylum for the year ending October 31st, 1885. Dr. P. E. GRIFFIN, Superintendent.

The number of patients in the Asylum on October 31, 1884, was 628. Admitted since, 216. Discharged recovered, 69; improved, 22; removed, [unimproved?] 70; escaped, 3; on trial, 15. Died, 75. Remaining October 31st, 1885, 605.

The admissions were seventy-seven less than last year. This, to a large extent, is the result of the Act of the last General Assembly, which requires more careful examination before commitment. Seventy patients were removed by County Commissioners. These were quiet, harmless, chronic patients, and six of them were returned under new commitments. The superintendent refers to the trouble he experiences in carrying out this provision of the law. "In many cases it seems wrong to send them to a poor-house, which is considered a disgrace, and their accumulation in the asylum becomes a serious expense to the State." He suggests as a better plan that the counties pay a moderate sum for the support of such patients in the State Asylum where their industry can often be made to diminish the general expense.

The centre building of the asylum was finished and occupied in August. The event is important inasmuch as it may be considered as the completion of the new asylum, which was begun as long ago as 1857.

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Thirtieth Annual Report of the Northampton Lunatic Hospital for the year ending September 30, 1885. PLINY EARLE, A. M., M. D., Superintendent.

Patients in the hospital at date of last report, October 1, 1884, 463. Admitted within the year, 136. Whole number of *cases* within the year, 599. Discharged recovered, 29; unimproved, 26; not insane, 3; died, 27. Remaining September 30, 1885, 476. Number of different *persons* within the year, 588. *Persons* admitted, 130; recovered, 29. Daily average number of patients, 475.94.

The present report is an unusually ample document and gains additional interest from the fact that it conveys to the trustees of the hospital Dr. Earle's last official message as Superintendent. We refer elsewhere to Dr. Earle's retirement from office after a service of twenty-one years, and one could not have more convincing proof of the fulness and faithfulness that have characterized that period than this last report, furnishing as it does a retrospect of the workings of the institution during his superintendency.

Dr. Earle is nothing if not a statistician, and as might be expected, he embraces this final opportunity to reiterate *con amore* his well-known opinions regarding the desirability of distinguishing between *persons* and *patients*. To the reader not gifted with unusual arithmetical acumen the presentment of his case is almost bewildering. But when one reads of a man who has been admitted twelve times, discharged recovered four times, much improved once, and improved six times; and of a woman who has been admitted sixteen times, discharged recovered eleven times, much improved once, and improved three times, one can not fail to appreciate the merits of the cause of which Dr. Earle has so long been the untiring champion.

His new statistical tables have already, he says, had an important effect in one respect. "Since their adoption there have been very few instances in which the same person has been discharged recovered more than once in the course of the year covered by any one report, and so long as they continue in use there is little probabiltity that any person will be credited with seven recoveries in a year—a distinction which had been accorded to at least one person in the antecedent history of one of the hospitals."

Among the recoveries special mention is made of the case of a woman who was originally admitted at the Worcester Hospital in March, 1871, and transferred to Northampton, in May, 1872. She was regarded for several years as the most dangerous patient in the female department. Her periods of maniacal excitement at length began to diminish in frequency and intensity, and a gradual improvement occurred from year to year until finally, after a hospital life of more than fourteen years, she appeared to be well and went home to her friends.

In speaking of deaths, Dr. Earle calls attention to the greater mortality in the male sex. In no less than fifteen of the last eighteen years, both the actual and the proportionate number of deaths of men exceeded those of women. The ratio last year was 5.51 per cent. for the men, and 3.68 per cent. for the women. Most alienists hold with Dr. Earle that shattered constitutions and profound diseases of the brain are much the most frequent in the naturally stronger sex.

Dr. Earle's paper on "The Curability of Insanity,"* is embodied in his report. It will be remembered that the conclusions drawn from this statistical study were that the old claim of curability in a very large majority of

* See JOURNAL OF INSANITY, October, 1885.

recent cases is not sustained; and that the percentage of reported recoveries of all cases received at the hospitals in this country still continues to diminish.

In severing his official connection with the Northampton Lunatic Hospital, Dr. Earle has every reason to feel satisfied with the success that has attended his management of the great charity. We regret that we shall not be vouchsafed another opportunity to review one of his reports, but we, together with the trustees, may take comfort from the fact that his mantle has fallen upon Dr. Edward B. Nims, who has been connected with the hospital for nearly seventeen years, feeling sure that its affairs will be administered on the same lines. We are the more confident in this belief in that Dr. Earle will, in compliance with a resolution of the trustees, continue to make his home in the hospital, and give to whilom associates the benefit of his experienced counsels.

Annual Report of the Maryland Hospital for the Insane for the year ending October 31, 1885. Dr. RICHARD GUNDRY, Superintendent.

The number of patients at date of last report was 415. Admitted since, 104; discharged recovered, 40; improved 17; unimproved, 24; died 30. Remaining October 31, 1885, 408.

Dr. Gundry makes the common complaint of overcrowding. Relief was anticipated from the new department for the insane at Bayview Asylum, but only five men have been accommodated there and more can not be received for lack of room. Thus it happens that chronic cases are allowed to remain in the only State hospital for the insane in Maryland, and recent, curable cases often become chronic while waiting to gain admission. The superintendent suggests the propriety

of so adjusting the law of admission of patients to the hospital that every case of uncomplicated insanity of less than one year's duration, shall be entitled to admission, and that when by reason of the institution being full, there is no room for such case, then that a chronic case that has been longest under treatment, from the same county, should be discharged to make room for such recent case. He is of opinion that another institution is urgently needed in Maryland, in the centre of a district of the State remote from Baltimore, say the Eastern shore, to which the patients of that district could be sent. He holds the firm conviction that every insane person is the ward of the State, and that as an active guardian, the State should protect his rights and provide for his wants.

Forty-First Annual Report of the Butler Hospital for the Insane, for the year 1885. Dr. Jno. W. Sawyer, Superintendent.

There were in the Hospital at the date of the last report, 190 patients. Admitted since, 169. Discharged recovered, 46; improved, 39; unimproved, 20. Died, 13. Remaining December 31, 1884, 178 patients.

This report acquires a melancholy interest from the fact of its being Dr. Sawyer's last to the board of trustees. Mention is made, elsewhere in the Journal, of Dr. Sawyer's death and a biographical sketch, written by an intimate friend, fully attests the great loss this institution has sustained in the death of its faithful superintendent.

The asylum year seems to have passed without special incident. Dr. Sawyer calls attention to various requirements, structural and other, to enhance the usefulness of the hospital, and the trustees could not pay a better tribute to their deceased superintendent than by carrying out such of his recommendations as have

not already been acted upon during the year just ended.

Among other desiderata, he mentions detached buildings, capable of accommodating a few patients in each, giving commodious suites of rooms and other conveniences such as can not be had under existing arrangements, and are often desired by the insane and their friends. The possession of such buildings would add, Dr. Sawyer thought, to the efficiency of the institution and promote its financial well-being.

Thirtieth Annual Report of the Government Hospital for the Insane to the Secretary of the Interior for the year ending June 30, 1885. Dr. W. W. Godding, Superintendent.

There were in the asylum, at date of last report, 1,146 patients. Admitted during the year, 320. Discharged recovered, 88; improved, 49; unimproved, 2; not insane, 1. Died, 105. Remaining, June 30, 1885, 1,221 patients.

Speaking of recoveries, Dr. Godding states that it is probably too much to hope that all of the thirty-six per cent. of cases which were discharged recovered remained well. Indeed, he doubts whether, in a majority of the cases which go out from a hospital apparently recovered, the full mental integrity, the old normal condition of the man as his neighbors have known him, is perfectly re-established. The brain heals—he puts it—but heals with a scar.

New buildings for the patients have relieved the overcrowding, especially in the female department. The hospital now admits of fifty distinct classifications of the inmates. Suitable protection against fire has been made by the provision of iron stairs, fire-doors and fire-walls, but there still remain two wings with but a single stairway each, and it is hoped that Congress will

vote the necessary sum for speedy protection for the two hundred patients who occupy them.

Dr. Godding complains justly of the act of 1882, giving authority, as it does, to the Attorney-General to transfer to the Government Hospital convicts who have become insane while serving sentence under United States laws. Thus many persons belonging to the criminal class have been received for custody and treatment, and the whole number of this class, including military prisoners, under treatment during the fiscal year was forty-three. It is this enforced association of the ordinary insane with crime to which Dr. Godding takes exception, and herein we heartily concur. Aside from the sentimental objection, there are other reasons why the two classes of insane should be kept separate. In the case of the convict, additional safeguards against escape are necessary, and less freedom must therefore be allowed those with whom he is associated. Within the year two convicts under a life sentence were transferred to the Government Hospital from State prisons. We unhesitatingly indorse the proposition that a building should be at once provided, made reasonably secure from the danger of escapes, and having properly inclosed grounds for labor and exercise. Increased accommodation for the colored insane is also necessary.

BOOK REVIEWS.

A System of Practical Medicine by American Authors. Edited by WILLIAM PEPPER, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine in the University of Pennsylvania. Philadelphia: Lea Brothers & Co., 1885.

Volume III of Pepper's System of Medicine has been for several weeks before the medical profession, and so well does it sustain the position established by its predecessors, that criticism must necessarily be of favorable tenor. The list of contributors includes the names of many physicians whose reputation for acumen in diagnosis and skill in treatment has not only reached foreign lands, but whose writings have found eager translators.

More than half of this volume is taken up with the discussions of the various affections of the respiratory system, and it is doubtful if there has ever been published in one volume such an elaborate and excellent treatise on this subject. The article by Dr. Carl Seiler on Laryngoscopy and Rhinoscopy, and those by the late Dr. Louis Elsberg on Diseases of the Larynx and Trachea are clear and comprehensive, and beautifully illustrated. The latter, especially, contains plates of pathological conditions that add much to the value of the work.

Under the name of Dr. A. L. Loomis we find an article on Croupous Pneumonia. We are pleased to observe the subject treated in the masterly manner characteristic of the author. A praiseworthy feature of the article is a series of very interesting and instructive temperature charts illustrating the course of the febrile movement in the different stages of the pneumonic process.

The author observes that the experience of American physicians is against the use of the cold bath or the wet pack. "It is found that under it pneumonia is more liable to extend, that the shock of cold to the surface causes a nervous depression, from which the old and feeble do not rally; that although a reduction of temperature may be effected, heart insufficiency is more rapidly reached and is more difficult to overcome."

Dr. Austin Flint contributes two articles, one on Pulmonary Phthisis and the other on Neuroses of the Heart, the former being an elaborate exposition of the subject. The author refers to Virchow's theory that the "sole characteristic of tuberculous disease is the presence of the so-called miliary tubercles" as having at the present time "few supporters in any country."

The latter half of the book is given up to the discussion of the Diseases of the Circulatory System, and includes affections of the Blood, the Spleen, the Lymphatics and the Thyroid Gland.

Dr. DaCosta has an article on Diseases of the Pericardium; Dr. Beverley Robinson has one on Cardiac Thrombosis, and Dr. A. H. Smith discusses the Diseases of the Veins. Dr. Smith has also an exceedingly interesting article on a form of disease which does not appear to have heretofore found a place in standard medical literature. It is called the "Caisson Disease," an affection due to exposure to greatly increased atmospheric pressure, and of which the constant lesion in fatal cases is congestion of the brain or spinal cord. The meninges are also often greatly congested, and if the patient survives for a number of days there will be extensive softening of the cerebral tissues.

Of course it is quite impossible, in the limited space at our command, to mention in detail the subjects treated in so large a volume as this, nor indeed is it

necessary. As the work is already in the hands of the profession it speaks for itself with no uncertain sound.

A Treatise on Nervous Diseases; Their Symptoms and Treatment. By SAMUEL G. WEBBER, M. D., Clinical Instructor in Nervous Diseases, Harvard Medical School; Visiting Physician for Diseases of the Nervous System at the Boston City Hospital. New York: D. Appleton & Co., 1885.

This work is the result of an effort on the part of the author to include "what is most essential for the study of nervous diseases within as small a compass as possible" and we are glad to observe that he has been in a high degree successful. The book contains thirty-six chapters, the first of which is devoted to some general remarks on methods of examination and is followed by a concise account of the anatomy and physiology of the brain.

The Diseases of the Brain, including the various affections of its membranes, Change in Blood Supply, Hemorrhage, Occlusion of Cerebral Arteries, Tumors and Abscess, occupy six chapters. Fourteen chapters are devoted to Diseases of the Cord, five to Diseases of the Peripheral and Sympathetic Nerves, and the remaining ten to a variety of affections not readily susceptible of classification. These include Vertigo, Chorea, Paralysis Agitans, Epilepsy, Hysteria, Neurasthenia, Tetanus, Toxic Neuroses and Syphilis.

As a rule, epitomes of any subject are far from satisfactory and frequently not only impart a superficial knowledge, but, from their brevity convey to the reader erroneous ideas. This book, however, appears unusually free from such objection.

The author has evidently read extensively and has greatly increased the value of his work by placing at the beginning of each chapter a more or less complete

bibliography of recent literature on the subject discussed. The book adds little if anything to previous knowledge, but it brings within reach much that would otherwise remain inaccessible to the general practitioner.

A Contribution to the Study of Diseases of the Circulatory System in the Insane. (The Essay to which the ten guinea prize of the British Medico-Psychological Association was awarded). By T. DUNCAN GREENLEES, M. B., Edin., Assistant Medical Officer to the Cumberland and Westmoreland Asylum, Garlands, Carlisle.

After a brief historical introduction, the author proceeds to treat his subject under two main heads—(1) statistical, and (2) pathological. His statistical division is subdivided into (1) The Condition of the Heart as found among the Living Insane.

Among 672 patients examined, he found heart disease in 86 cases, or almost 137. of the total; and in 294 patients, representing nearly 44 per cent., there was functional disorder present. Among the latter are embraced such conditions as weak and almost inaudible heart sounds, irregular rhythm, re-duplication or accentuation of one or other of the sounds; loud and tumultuous heart action, associated with a false, rapid or abnormally slow, irregular or intermitting, weak or compressible. The author observed that heart disease occurs with greater frequency among recent and acute cases of insanity than among the more chronic and stationary types.

In the cases presenting the clinical symptoms of cardiac disease or arterial atheroma on admission, Dr. Greenlees found (1) mitral systolic murmurs, (2) presystolic murmurs, (3) double aortic murmurs, (4) hypertrophy, (5) accentuation or re-duplication, (6) atheroma or thickening of the arteries.

The second subdivision is "The Condition of the General Circulation of the Insane." Here attention is called to the frequent impairment of the circulation, the slow and feeble pulse, and the cold, even livid and swollen extremities, especially in recent cases of acute melancholia and old standing cases of dementia or other chronic forms of insanity. In a population of 530 insane the author found one or other of the above conditions in 59 cases. An inquiry into (3) Heart Disease as a Primary Cause of Death shows that of 222 autopsies made during a period of five years, in 30 cases (1 in 7.4) the heart was diseased to such an extent as to constitute of itself the primary cause of death, and that in 153 cases (68.77) the heart and vessels were not healthy, being sufficiently diseased to constitute a secondary or more remote factor in the fatal issue.

As regards the relative frequency of heart disease in various asylums, the percentage was found to be as follows: English, 5.90 per cent; Scotch, 9.70; Irish, 6.56; while the percentage at Garlands, covering a period of 20 years, was 6.09, making an average percentage of 7.05.

The author's investigations comprise the conclusions of Dr. Burman that heart disease, as a cause of death among the insane, occurs with greater frequency in those localities where the proportion of the insane to the sane is greatest.

Two other subdivisions, an analysis of which is precluded by our limited space, are:

(4) Pathological changes observed in the Heart and Blood Vessels of those Dying Insane, including those changes not necessarily contributing to the fatal issue; and

(5) The percentage of Deaths from Heart Disease or Arterial Change among the General Public.

The author's general summary and conclusions are given elsewhere. (See Abstracts and Extracts.)

In his Pathological Division, Dr. Greenlees gives the result of his microscopic examination of 16 brains, representing cases of dementia, senile decay, epilepsy, general paralysis, paralytic insanity, *folie circulaire*, and congenital imbecility. The chapter opens with a brief statement of the structure of the vessels of the brain in health, in which reference is made to the descriptions of Virchow, Robin, Batty, Tuke, Obersteiner, Deecke, and others. The changes in the insane observed by the author are minutely described and illustrated by two colored plates, and must be read and studied in the original to be appreciated.

The paper is altogether most creditable to its painstaking author, and constitutes an important contribution to the literature of the subject of which it treats. The Cumberland and Westmoreland Asylum may be congratulated on having on its staff two industrious workers in this field of research. Not long since, it will be remembered, Dr. S. R. Macphail, of the same asylum, wrote a valuable Essay on the Blood of the Insane.* D.

Eighteenth Annual Report of the State Board of Charities, to the Legislature of New York, January, 1885.

This report brings under our view, and enables the reader to form some conception of, the vast system of charitable institutions supported or aided by the State of New York. We have here a tolerably correct inspection not only of the State charitable and reformatory institutions, but of all incorporated and

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private asylums for the insane, county and town poor-houses, with their departments for insane, alms-houses, institutions for the blind, deaf and dumb, and idiots, Houses of Refuge, Orphan Asylums, Homes for the friendless, the aged, destitute children, foundling hospitals, industrial schools, Houses of Mercy, &c., &c. Of this latter class of general charities, which receive little or no aid from the State, but occasional appropriations from counties or cities, there are no less than 192 in number, with real and personal property amounting to $18,986,343.41, and a total of receipts from all sources of $5,538,582.67, and a total expenditure of $5,114,887.66. The number of persons supported or relieved by these municipal, denominational and private institutions is reported at forty-two thousand seven hundred and seventy-three. Many in the list however have furnished the Board no *data* for their report.

The Board has made a point also of investigating the proportion of foreign and native population supported by the charities of the State. In six city alms-houses, including that of New York city, it finds the number of natives to be 16,575, while the foreign born were 34,300. In the county poor-houses the relative numbers were 8,867 of native, and 9,316 of foreign. Under a State law passed in 1880 (cap. 549), disabled and helpless immigrant paupers may be returned to the countries from which they came. As the General Government in 1882 assumed charge of the "head-money"* of fifty cents each on arriving immigrants, the largest and best proportion of whom settle in other States, the Board has been the more vigilant to secure this State against the burden of pauper immigration by carrying out the State law of 1880. The whole

* The report states that this *per-capita* duty amounted to $500,000 for the two preceding years.

number of such cases returned to Europe has been 292, at an expense of $7,003.11. The Board asks for an appropriation of $5,000 this year to continue this part of their work. It has also urged upon the Department of State at Washington to issue circulars to our representatives in foreign countries giving notice to European governments of our recent legislation on this subject.

The portion of the report with which we are most concerned, is, of course, that which relates to the insane. The statistics seem to be very full and complete. The whole number of insane in the care of the various classes of institutions is 12,123, besides those in private family care, estimated at 3,000. As to the Federal census, that of 1870, showed one insane person to about every 1,000 of the population, but that of 1880, while giving a little over fifty millions of population, showed 91,997 insane, or one to every 545. It is noticed, however, that the insane of native birth were 65,651 or one to 662 of the native population, while those of foreign birth were 26,346, or one to every 254. The Board regards this as only another indication in the same line, that this State especially, through which the principal stream of immigration passes, is more liable to be burdened with the helpless and the unfortunate of the vast multitudes that have poured into this country from Europe.

The four State hospitals for the acute insane at Utica, Poughkeepsie, Buffalo and Middletown, are reported as containing, October 1, 1884, 1,597 patients, the number under treatment during the year having been 2,610. The recoveries were 310; discharged improved, 136; unimproved, 376; not insane, 22; deaths, 169. The proportion of the sexes was nearly equal. The receipts of these four institutions from the State during the year (1884) were $55,473.64.

The two institutions for the chronic insane, Willard and Binghamton, had under care, October 1, 1884, a total of 2,402 patients, of which Binghamton had 580.

The number admitted during the year was 472, about half to each. Their receipts from the State were $61,367.50. Willard reports "discharged and died" 172. Binghamton, discharged, 41; died, 47. In all cases we should say, the mortality should be reported separately from "discharges" of any other kind.

The counties exempt from the Willard Act, and which make provision for their own chronic insane, fifteen in number, show a total of 1,370 patients, (590 of them women). Erie had 298, Oneida 247, Onondaga 119 and Queens 121.

In the counties not exempt from the Willard Act, there were 552 insane. Most of these have no provision for insane, separate from the poor-house, but the Board encourages them to make such and to obtain exemption from the Willard Act. The officers of the Board have certainly done good service in visiting these places, and causing the removal of such cases as required it to the State institutions.

In the county asylums of New York, Kings and Monroe counties there was a total of 5,372 patients, of whom 2,256 were women. It goes without saying that these places would be overcrowded, but the Board is sanguine that New York and Kings will soon have large farms and new buildings beyond the purlieus of the city.

The Board in their remarks upon further provision for the insane, seem to fall into the idea that there ought to be no chronic insane in the hospitals for treatment and cure, and that the homes for the incurables should be enlarged *ad libitum*, but they seem to forget

the well-recognized fact that the association of acute and chronic insane is highly beneficial in a large proportion of cases. They do not seem to have noticed the fact that a large number of chronic insane are among the recoveries in the hospitals every year; also that a large number of chronic cases, by prolonged treatment—which includes good food, regular life, association with those improving and occupation—though they do not recover, so improve as to return to their own homes, and not only cease to be a public charge but become useful members of society.

Separation of insane into acute and chronic, as an absolute basis for hospital provision, has no sound foundation in medical science or political economy. If the transfer to county asylums and State institutions for the chronic insane was carried out in the spirit and letter of the law which declares: "When a patient can be certified as harmless and will probably continue so, and not likely to be benefited by further treatment in the asylum" or "is manifestly incurable and can probably be rendered comfortable at the poor-house," we should have more recoveries and more improved cases sent to their families. It can not be doubted that the course taken in the inconsiderate transfer of chronic cases has contributed to the increase of incurable insane as well as the increase of public burdens.

Brain-Rest. By J. Leonard Corning, M. D., formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, Physician to the New York Neurological Infirmary, etc., etc. Second Edition. Revised and Enlarged. G. P. Putnam's Sons, New York and London, 1885.

This small volume is a disquisition on the curative properties of prolonged sleep. The author, having lost faith in the healing powers of "spasmodic migrations

among primitive European hostleries, where, instead of exemption from care, the unhappy victim is assailed by a countless array of petty extortions, which, though insignificant in themselves, serve like the stings of countless hornets, to render both night and day populous with torment," advocates a scheme of treatment which is designed to supplant the go-to-Europe panacea. There are some excellent chapters in the book. In discussing the "Hygienics of Sleep," the author advocates the early-to-bed doctrine, claiming that it is not enough that an individual shall have slept for a given length of time during the twenty-four hours which constitute the two symmetrical periods of vital activity and vital repair. "It is quite as necessary that the requisite period of rest should invariably occur at the time indicated by nature as the best suited for the restoration of spent energy, namely, as soon after sunset as possible." He realizes that the exigencies of modern life are, in a great measure, responsible for the gross violations which are constantly perpetrated against the most important laws of our being, and that modern civilization means far oftener, "the perversion of nature to utilitarian ends than the adaptation of the sociological mechanism to the profound truths of natural law." The whole chapter is a protest against overmental tension, leading, as it must, to interference with rhythmical brain-rest. The intimate relationship which insomnia bears to insanity and functional nervous disorders is animadverted upon, and the conviction expressed—in which we agree—that a large amount of the success to be hoped for in the prevention of insanity will be directly in the ratio of the good results obtainable in the treatment of the premonitory insomnia.

Dr. Corning speaks highly of the Weir Mitchell treatment as fulfilling the requisites of physiological

cord-rest more thoroughly than any other. He admits, however, that so far as the treatment of those affections which are unquestionably due to functional derangement of the brain is concerned, it has little or no application, and may be positively harmful. The essential features of the author's scheme of treatment for brain-rest, are; (1) Cerebral rest (progressively prolonged sleep); (2) increased general and cerebral nutrition: (3) diminution of psychical irritation and sensory impressions, particularly those of light and sound.

We have not space to give a general description of the author's treatment, neither can we attempt a review of the other interesting features in the little treatise. We must mention, however, the chapter on the "Mechanical Regulation of the Cerebral Circulation." It is illustrated by wood-cuts of ingenious appliances of the author's invention, to diminish the blood supply to the brain, and is replete with practical suggestion. To all persons interested in brain-rest—and who is not?—Dr. Corning's book will prove highly acceptable reading.

Psychiatry, a Clinical Treatise on Diseases of the Fore-Brain, based upon a Study of its Structure, Functions and Nutrition. By THEODORE MEYNERT, M. D., Professor of Nervous Disease and Chief of the Psychiatric Clinic in Vienna. Translated (under authority of the author) by B. SACHS, M. D., Instructor in Diseases of the Mind and Nervous System in the New York Polyclinic. Part I. The Anatomy, Physiology, and Chemistry of the Brain. New York and London: G. P. Putnam's Sons. 1885.

The compilation of a dictionary is stated, in an epigram by Scaliger, to be condign punishment for the most odious of crimes. Had that great man of letters lived in our day, he might have thought the translation into English of a German scientific work like this of

Prof. Meynert's, meet atonement for untold wickedness. We are not aware, however, that Dr. Sachs has been doing penance in his translation, and are free to acknowledge the great debt of gratitude under which he has placed the profession in this country by making into English so admirable a scientific treatise on diseases of the mind as the one before us. We use the word "scientific" advisedly, for no mere book-making zeal impelled the author to add to the already large literature on insanity. He was convinced of the need of such a book as he has written, and he further states in the preface that the least doubt as to the correctness of any views expounded in his book induced him to make halt until he had satisfied himself of their correctness by scientific investigation and reflection. Thus is accounted for the long interval which has elapsed since the book was begun—namely, since 1877.

The volume has come into our hands just as we go to press, and no complete review can be attempted. That Meynert is its author is, we are sure, sufficient to commend it to all. The first chapters, indeed the bulk of the first volume is anatomical in character, and will be of use mainly as a text-book. Dr. Sachs tells us, however, and meanwhile we are willing to take his word for it, that students of psychiatry, of physiology and of psychology may gather much information and much food for reflection from the subsequent chapters of the treatise.

As regards the theory of predisposition, and more particularly the doctrine of heredity, Prof. Meynert has deemed it necessary to criticise Darwin's theory of the inheritance of acquired faculties, as has been done before him by other German authors, among them DuBois Reymond and Weissman.

"It is," he says, "taking altogether too simple a view of things to regard morality as one of man's talents, and as a definite psychical property which is present in some persons and absent in others. Indeed, there is great truth in Weissman's observation: 'Talents do not depend upon the possession of any special portion of the brain; there is nothing simple about them, but they are combinations of many and widely different psychical faculties.'"

He warns as against the danger of casting too great a suspicion upon the limits of mental health by considerations of hereditary predisposition and the errors of organization which constitute the basis of predisposition. "Thinking physicians will avoid this danger, for they will distinguish between those who are possibly 'called' to disease, and that fortunately smaller number of persons who are, in the saddest sense of the term, 'chosen' for disease."

The typographical and xylographical execution of the work leave nothing to be desired, and we cannot commend too highly the excellence of Dr. Sachs' translation.

Klinische Psychiatrie. Specielle Pathologie und Therapie der Geisteskrankheiten. By Dr. Heinrich Schuele, Illenau, Leipzig. F. C. W. Vogel, 1886.

It is with great pleasure and satisfaction that we announce the receipt, as a new year's gift from the author, of the third edition of his handbook. In the pleasant letter which accompanies the volume, the author calls it an entirely new work, and this indeed it is, wherefore our review must be held over till the next number of the Journal. D.

NOTES AND COMMENTS.

THE CASE OF RIEL.—Riel was hanged on November 16. All the efforts made to procure a commutation of the sentence failed. An appeal was made to the Judicial Committee of the English Privy Council for a new trial but without avail. The appeal was based on the fact that the trial was conducted in contravention to English Common law and therefore *ultra vires*. The procedure objected to was, viz:

1st. Only six of a jury instead of twelve of the prisoner's peers.

2d. A stipendiary magistrate tried this case and being only such could not try a case of treason involving life and death.

3d. There was no Grand Jury to sift the evidence against the prisoner and thus no presentment could be brought in, as an additional safeguard against injustice.

4th. Sufficient time had not been given before trial to make inquiry into the mental condition of the prisoner.

5th. There was no proper impounding of a petit jury, seeing the presiding magistrate could select any persons he thought fit to be jurymen and did so at the trial.

The Privy Council held that as these charges in law were statutory in the Canadian Territories, the Council had no right to interfere, as under the Canadian Act of Confederation all such laws were held to be valid and had not been appealed against when legislated upon. This ended the appeal to England.

An effort was made to influence the Canadian Government. Under law the execution could not take place until specific orders were sent from the Governor General in Council. Two respites had been granted but only four days before the execution a warrant was issued to hang Riel, and it was done accordingly. Seeing that the jury had recommended the prisoner to

mercy; seeing that two respites had been granted; seeing that it was a political offense; seeing that positive evidence existed of Riel having been insane and having been legally committed as such to three asylums; seeing that strong evidence existed as to his unsoundness of mind after actual hostilities had commenced and that there was no proof of his having had anything to do with the armed opposition, beyond being a mere figure-head of designing men, it was felt that imprisonment for life would have subserved all the ends of justice. Political rancor, intrigue, religious animosities and race prejudices decided the fate of this unfortunate man, irrespective of any other consideration. The medical and specialistic feature of the case was relegated to a secondary position. A commission of qualified and impartial medical men to inquire into Riel's mental condition was refused. A post-mortem of his brain by a well-qualified pathologist was also refused, lest it might complicate political matters were the brain found to be diseased.

Now that the excitement consequent on the rebellion has ceased, it is felt that Riel's execution was a grave mistake.

Retirement of Dr. Pliny Earle.—Although for nearly a year it has been an open secret that Dr. Earle would resign the superintendency of the Northampton Lunatic Hospital, news of his actual retirement from office, which occurred October 1st ult., will be received with universal regret. We may echo the comment of the Hampshire *Gazette,* that "it is no exaggeration to say, that Dr. Earle has been a model official, and that he has accomplished a work for the institution that will stand the test of time and bear rich fruit many years hence. He has been a steady, painstaking, methodical

worker, planning on a broad and liberal scale, and doing whatever he has undertaken with remarkable attention to every detail and with patient devotion to the welfare of the institution. He has been for 21 years, like a successful general at the head of an army, and his example will long be quoted by his successors in office and by the managers of other public institutions." For the present, he will remain at the hospital, by special invitation of the trustees.

At a meeting of the trustees of the State Lunatic Hospital at Northampton, on Thursday, July 2d, A. D. 1885, the following resolutions were unanimously adopted:

Resolved, That in accepting the resignation of Dr. Pliny Earle, Superintendent of this Hospital, the trustees have reluctantly yielded to the conviction that his advancing years and impaired health demand rest and relief from the responsibilities and labor of his position.

Dr. Earle has been at the head of this Institution twenty-one years, and, during nearly all that period, has also been its treasurer. In its management he has combined the highest professional skill and requirement with rare executive ability. By his thorough knowledge, his long experience, his patient attention to details,—by his wisdom and firmness, his absolute fidelity to duty, and devotion to the interests of the Hospital, he has rendered invaluable services to the Institution, and to the community which it serves. The trustees are deeply sensible of the assistance which he has given them in the discharge of their duties, and follow him, in his retirement, with the assurance of their highest respect and esteem.

Resolved, That the trustees indulge the hope that Dr. Earle will continue to make his home in this institution, that they may continue to profit by his counsels; and they will provide that his rooms shall be always open and ready for his use.

Resolved, That these resolutions be entered upon the records of the Board, and that a copy thereof, attested by the Chairman and Secretary, be transmitted to Dr. Earle.

DEECKE'S INHALER.—This apparatus has been devised by the Special Pathologist of the New York State Lunatic Asylum for the purpose of facilitating the inhalation of gases, as oxygen, etc., or air charged with the vapors of various volatile substances, as oil of turpentine, &c., carbolic acid, iodine, &c. It is constructed upon the principle of conveying these remedies as far down into the respiratory passages as possible by applying the two small glass bulbs at the end of the inhaling tubes to the nostrils, thus inhaling through the nasal openings with each breath by exhaling through the mouth.

Care should be taken that the inlet tube reaches so far down into the bottle that its end is always about an inch below the level of the fluid.

For the inhalation of gases the bottle is filled to about one-half with water at ordinary temperature, the glass tube passing downward into the bottle is drawn upward to about one inch above the stopper, and with it the connection made, by the use of a rubber tube, with the cylinder containing the gas. For inhaling vapors the glass is pushed down to the upper level of the stopper, and the bottle filled to about one-third with warm or even hot water, charged with a few drops of the inhaling liquid or mixture. In order to keep the fluids at a uniform temperature during inhalation the bottle may be placed in any suitable vessel containing hot water. In order to secure a uniform influx of air,

the area of both outlet or inhaling tubes together should be equal to that of the one inlet tube, while the lumen of all the tubes should be such that no forced breathing or inhalation is necessary, unless desired or specially directed.

A Dispensary for Mental Affections.—The Managers of the Pennsylvania Hospital, who have under their supervision the General Hospital at Eighth and Spruce streets, Philadelphia, and the two departments for the insane in West Philadelphia, have established, at the department for out-patients at the General Hospital, in addition to their other dispensary services, one for mental affections.

This department is under the medical charge of the physicians at the department for the insane. At present the dispensary department is open on Monday and Friday afternoons of each week at three o'clock. The term of service at the dispensary for each medical officer has, we believe, been fixed at three months.

Although this department has only been established since November 1st, and has, therefore, not been in operation for a sufficient period to become familiar to the profession or public, the number of applicants indicates that there is, in large cities like Philadelphia, a field for a service of this description. In the two months of its operation eighteen new cases have applied and nineteen re-visits have been made.

The object of the dispensary is to afford advice and treatment to such cases of the indigent insane as apply in the incipiency of their attacks, and the cases who have thus far visited the dispensary belong, we understand, almost wholly to this class.

One of the pleas made by the advocates of home treatment for the insane has been that in many

instances the insane were placed in asylums too early, that recovery might have taken place at home, and the patient saved the so-called stigma of asylum residence. While we have little sympathy with arguments of this kind, believing (and in this belief statistics support us) that more harm is done by delay than can possibly occur by too early committals to asylums, yet we see in the experiment of the Managers of the Pennsylvania Hospital a departure which in time, as experience shall accumulate, will throw valuable light upon the subject of asylums and non-asylum treatment of the insane. If there is a class of cases—and we believe there is—who under the observation of experienced asylum physicians in a dispensary of this kind, can be treated out of asylums, such a service ought to afford results upon which valuable conclusions can be based. If on the other hand this offer of the Managers and their medical staff to furnish experienced advice and treatment to the indigent insane, at a period of the disease when treatment is the most successful, is not taken advantage of, it will demonstrate in a measure that there is little call for home treatment, and that the cry against too early commitments to asylums has no real basis.

Asylum Appointments.—Dr. William B. Goldsmith has been appointed Superintendent of the Butler Insane Hospital, Providence, R. I., in the room of Dr. Sawyer, deceased. Dr. William A. Gorton has been promoted from the position of First Assistant Physician to the Danvers Hospital to that of Superintendent, made vacant by the resignation of Dr. Goldsmith.

OBITUARY.

LORD SHAFTESBURY.

If some men are "born great" and others have "greatness thrust upon them," there are those who acquire greatness through the conscientious and persevering development of their inherent qualities. The late Lord Shaftesbury, whose departure from this life all England was called to deplore on the 28th of September last, was one of the few noblemen whose figure stands pre-eminent in the memory of his day and generation, for a characteristic very different from the "characteristics" of one of his ancestors, of Deistic fame—the enthusiasm of humanity. And as that enthusiasm embraced, among its multitudinous objects, the great and widely extended charity of provision for the insane, making itself acquainted with the whole field of its administration down to its minutest details, no apology is required for this notice in the pages of a journal devoted to that specialty. Our readers have frequently been treated to copious extracts from his very protracted evidence, given before the Parliamentary Commission of 1877, which evinced an astonishing familiarity with the whole history of provision for the insane, and with all the difficulties heretofore overcome or still remaining, and all the principles which experience has shown should govern the practical management of this vast interest.

Lord Shaftesbury's surname, Ashley Cooper, was derived from the union by marriage of two families in the reign of James I, and the first Earl was raised to the peerage of Charles II. The sixth Earl married the daughter of the third Duke of Marlborough, who was the mother of the subject of this notice. Her portrait

was painted by Sir Joshua Reynolds, and she died so late as the year 1867, at the age of ninety-two years. The family seat, St. Giles House, Dorsetshire, has belonged to the Ashley-Coopers since the seventeenth century, and is famous for its library, seventy feet long, which contains among its treasures, the MSS. of Handel's Oratorios, and also for being one of the strongholds for the meeting of Parliament during the war of the Great Rebellion. In the drawing-room of this mansion, among other notable objects, may be seen a fine marble bust with this inscription: "Presented to Emily, wife of the seventh Earl of Shaftesbury, by the operatives of the manufacturing districts of the North of England, as a token of their esteem and regard for the persevering and successful efforts of her noble husband in promoting, by legislative enactment, a limitation of the hours of labor of children, females and young persons employed in mills and factories." Here the late Earl was born April 29, 1801, and here, by his own wish, rest his remains, although his funeral obsequies were held at Westminster Abbey. He was educated at Harrow, and Christ Ch., Oxford, graduating in 1822. Four years after he entered Parliament, in the Lower House, for the borough now represented by Lord Randolph Churchill. In 1830, he married a daughter of Earl Cowper. He soon came under the religious influence of Simeon and the Clapham School, and like Howard, devoted himself to the improvement, by legislation, of the condition of the poorest or most unfortunate classes of the population. New inventions had thrown vast numbers out of employment, and prisons and alms-houses were crowded. It is incredible now that Lord Ashley should have encountered so much opposition to his benevolent plans. He never took his facts at second hand. He personally visited

and investigated mills, factories, mines, prisons, costermongers' stalls and houses, the slums of London, prisons, alms-houses, and asylums for the insane. His speeches in Parliament revealed such horrors as to be received with utter incredulity, until Commissions of Inquiry were sent to verify the facts. The result was the "Factory Acts" of 1833, as a first installment. Still, children from five years old and upwards were found by hundreds working in mills and mines and factories of various kinds, with fearful mortality. The details were simply horrible. In 1842, he secured the passage of the law prohibiting the employment of women, or of young children under fourteen in mines or collieries, and no one under twenty-one could be in charge of an engine. In 1845, he secured further Acts for the regulation of juvenile labor in calico print works, and for the better care of the inmates of lunatic asylums.

In 1846, he exposed the slums of London, very much worse than now, finding hundreds of waifs and strays amidst revolting squalor. Little children employed by chimney sweeps were often suffocated. He organized the system of "ragged schools," and was president of that association down to the day of his death. In 1848, there were sixty of these schools with 10,000 children. In 1883, he said these schools had "picked from the streets 300,000 boys and girls, all of whom, but for this, would have been found ere long among the dangerous classes." A large number also were organized into a "shoe-black brigade," who thus earned their living.

In 1851, he secured the passage of an Act for the registration of common lodging houses, the best law, Charles Dickens said, ever gotten through Parliament, and one that resulted in such "monuments of benevolence" as the Peabody buildings, Queen's Park,

Shaftesbury Park, &c. The Shaftesbury Park, in Battersea, opened in 1874, and has 1,200 dwellings accommodating 8,000 persons, families of clerks and artisans.

In 1851, by his father's death, he took his seat in the House of Lords and had very great influence with the Prime Minister, Lord Palmerston, and his successors. His whole term of service in Parliament was fifty-six years, and it is largely due to his long and persevering activity that the legislation of England in regard to labor and the care of the insane, stands at this day as a model which the rest of the world is content to imitate.

He was associated with Hon. Mr. Gordon in the first Committee on Inquiry into the condition of the insane in 1828, and from that time for twenty years he was in the habit of frequent visitation personally to the various institutions and private retreats where the insane were cared for. He was active in procuring the successive steps in legislation that culminated in the General Act of 1845, which digested all preceding statutes, and created a permanent Board of Special Commissioners in Lunacy, six of whom were paid. Of this Board, Lord Shaftesbury was chairman down to the day of his decease during the present year. Previous to 1845, only occasional and transient commissioners were appointed who were paid according to the time they gave. Three of the commissioners, including the chairman, were nominated by the Lord Chancellor, to visit and keep some account so far as possible, of the private or "single" patients. In his evidence before the Parliamentary Commission of 1877, Lord Shaftesbury enlarged upon the vast improvement in the system of lunacy's laws and management that had taken place during the fifty years of his experience

in the subject. Even then few were living who could recall like himself "the horrible and disgraceful position" of the insane at that early day when his efforts for its amelioration were commenced. The Act of 1845, as improved in 1853, had, in his opinion, left very little to be desired in the present management of asylums, and the general provision for the insane. It was probably in consequence of his testimony, drawn from very intimate knowledge of the whole subject, against the prevalence of any real abuses in the admission or detention of patients, that prevented that Commission from reporting any change or modification in the existing law. In fact whole treatises on some branches of the subject might be compiled from his voluminous testimony before that Commission.

DR. JOHN WOODBURY SAWYER.

Died 14th December, 1885, Dr. John Woodbury Sawyer, of the Butler Hospital, aged 51 years.

The following is the published report of the case, as communicated to the Rhode Island Medical Society, on December 17th, by Dr. J. W. C. Ely, of Providence, the attending physician:

Dr. Sawyer was taken sick on Friday afternoon December 11th. After dinner while going up stairs he felt a sharp pain on the left side of his throat beneath the submaxillary gland. After tea he had a chill which lasted about two hours and which kept him shaking although he was not cold. The next morning the 12th, Dr. Ely saw him. His temperature was then 102.2, pulse 106, (Dr. Sawyer's normal pulse was 60) and respiration 16. His tongue was coated a yellowsh brown, and there was a hard and brawny swelling on the left side of his neck. It seemed to Dr. Ely that all the cellular tissue was infiltrated, involving the gland. Dr. Sawyer had said three or four months before that he thought his lymphatic glands were enlarged, and Dr. Ely at that time detected a small one at the back of the neck. The action of the heart was

very feeble, the pulse rebounding. That same night at one o'clock the pulse and temperature were the same, but the voice had grown husky, and Dr. Sawyer was afraid that he had membranous inflammation of the larynx, but on examination this supposition was not verified. On the morning of the 13th, Dr. Ely visited the patient again, accompanied by Dr. Carr. The temperature was 101.2, the pulse 106 but its character was better. The swelling of the neck had not increased, but the patient complained of sensations indicative of quinsy. On Monday morning, the 14th, the patient had apparently held his own; during the day and the night had taken a good deal of nourishment in liquid form. But at 5.30 o'clock that evening, when, by appointment, Dr. Ely met Dr. Carr and they proceeded together to visit Dr. Sawyer, they found a great change for the worse. The temperature at noon had been 103.8, at four o'clock the same, the pulse 130 or 140, and respiration 32. At 2.30 o'clock he had a chill, but not a severe one. After this he was wholly unable to swallow anything and his voice was gone to a whisper. The inflammation on the left side had progressed nearly to the median line and down toward the chest, and an erysipelatous flush had extended along the right side of the neck with the accompanying fullness, but without the hardness. The hands were inclined to be a little livid, showing more or less asphyxia. An incision was made to try to get pus and relieve the swelling, but none came, the venous blood was black and there was no relief. Tracheotomy was then performed, but Dr. Sawyer did not live two minutes after the operation. Dr. Ely further said that the history of the family showed that Dr. Sawyer's father had died at the age of 82, of congestion of the lungs; his mother was still living and he had lost two sisters of consumption. He did not think that Dr. Sawyer had had any trouble with his kidneys, as had been suggested by the peculiarity of his complexion. The cause was evidently some septic poison; but Dr. Ely could offer no theory of the origination of this poison.

In answer to a question by Dr. Storer of Newport, Dr. Ely said that he had not discovered any injury to the throat.

Dr. Storer then stated that about ten days before his death Dr. Sawyer had attended a maniacal case in consultation with himself and Dr. Thomas Parker at Newport, with a view to its removal to the Butler Hospital.

During the visit, the patient, a strong athletic young man, had sprung at Dr. Sawyer, and clutched him by the throat, and if the policemen who were in attendance had not dragged him off, the

doctor would have been at the time seriously injured. He had thought that the violence done the throat by this assault might have induced, with a predisposition to trouble there, the fatal affection.*

Dr. Ely said that Dr. Sawyer never told him of the accident.

Drs. Storer and Batcheller in brief addresses, paid tribute to the memory of their deceased friend.

On motion of Dr. Newell, the Chair appointed Drs. Storer, Ely and Batcheller to frame resolutions embodying the Society's realization of its loss, etc.

The following preamble and resolutions, submitted by this committee, were unanimously adopted by a rising vote:

WHEREAS, An inscrutable Providence who wounds only that through His own mysterious reasons He may really benefit, has taken from the Rhode Island Medical Society its beloved Vice President, Dr. John Woodbury Sawyer, therefore,

Resolved, That in Dr. Sawyer not only had the Butler Hospital a medical superintendent whose first and only thought was the welfare of the unfortunates whom it was his duty to protect, to care for and to heal, but a judicious adviser, who added much to its previous reputation as a model institution.

Resolved, That the loss of Dr. Sawyer is one equally great to the city of his residence and to the State at large, so many of whose citizens have had occasion to require his kindly skill.

Resolved, That the R. I. Medical Society mourns its deceased brother, whose mere acquaintance was a pleasure, and whom to know was to love. Gentle and yet decided, modest always, and wholly forgetful of self, learned in his special department of professional labor, and yet inferior to none as a general practitioner, his death leaves a void which time can never more than imperfectly fill.

Resloved, That the President and Secretary, in behalf of every member, tender to the bereaved widow and orphaned son of the deceased their sincere and heartfelt condolence, and their sense not only of collective but of personal bereavement.

Resolved, That a committee of——, to be appointed by the chair, attend the funeral of Dr. Sawyer in behalf of this Society, as an additional mark of sympathy and respect.

***From the above it seems more than probable that Dr. Sawyer is still another Medical Superintendent who has perished at the post of duty, another martyr whose life has been sacrificed in the attempt to relieve a suffering patient.**

The chair then stated that the Society as a whole would be named to fill the blank in the resolutions.

The funeral was solemnized in the chapel of the asylum at noon on Friday, December 18th, the Rev. T. Edwin Brown, pastor of the First Baptist Church, officiating. The chapel, which occupies a small space on the third floor of the centre building of the hospital, was completely filled, and a large number were compelled to sit outside the doors in the corridor during the service. The platform was reserved for the officers of the hospital and Board of Trustees, who were present in a body, together with Superintendent Woodbury and the physicians of the Rhode Island Hospital, the Superintendent of Dexter Asylum, and the Presidents of other Hospitals, Mayor Doyle, the Overseer of the Poor and other city officials. Seats were also reserved for the members of the Rhode Island Medical Society, who attended the services in a body, and the representation of out-of-town as well as resident physicians, was notably large. The employés of the institution and many of the patients were also present in a body, and friends and acquaintances in large numbers testified to their regard and sympathy for the dead by their attendance on these last rites. The body of Dr. Sawyer was embalmed and lay in a casket, metal-lined and broadcloth-covered. The top was completely concealed by flowers. At the foot of the casket reposed an anchor, the body of which was of white japonicas, and at the head was a wreath—two floral tributes that were very beautiful. At each of the four corners of the glass at the head lay a bunch of violets and loosely-tied bunches of roses, a wreath of lilies of the valley, and loosely made-up wreaths of japonicas with single roses, and japonicas and sprays of fern were strewn over the top. Masses of smilax formed a ground work for these

beautiful emblems. On the table beside the casket was a magnificent floral design, "The Gates Ajar," which was the tribute of the employés of the institution.

A meeting of the trustees was held at the Hospital immediately after the funeral, at which the following Memorial Minute was adopted, and ordered to be placed on the records, and also to be published:

John Woodbury Sawyer, M. D., Superintendent for the Butler Hospital for the Insane, died after a brief illness, on Monday, December 14, 1885, at the age of 51 years. He was born in Danvers, Mass., November 5, 1834, and received his medical education at Harvard University, where he graduated as doctor of medicine in 1859. He was immediately, by the selection of Dr. Ray, appointed to the office of assistant physician in this hospital, and here he spent the first two years of his professional life. He then entered upon the practice of his profession in Boston, and after the lapse of a little more than a year, he was appointed assistant superintendent of the State Hospital for the Insane at Madison, Wis. He had been engaged in discharging the duties of that position for nearly six years, when, on the resignation of the late Dr. Isaac Ray, he was chosen superintendent of this Hospital, and entered upon the duties of the office in January, 1867. The choice was made in accordance with the recommendation of Dr. Ray, who had had charge of the Hospital from its foundation.

From the day of his election to the day of his death, a period of nearly nineteen years, he has discharged the diversified duties of this office with unremitting assiduity, with rare wisdom and with distinguished success. As they look back over the long period of his connection with the Hospital, the trustees recall with unqualified satisfaction and with high and grateful appreciation the varied and laborious services which he has performed in its behalf, not only in his judicious and tender treatment of its patients and his watchful oversight of its interests, but also in the careful keeping of its accounts and the successful management of its farm. In each of these several spheres of official service he has shown the utmost fidelity to every trust, a breadth of capacity and a soundness of judgment equal to every emergency, and withal a kindness of heart and an elevation of character which, in an unusual

degree, have secured the confidence, the esteem and the highest respect of those with whom he has been associated. Under his watchful superintendence, and by his wise administration, the Hospital has widened the sphere of its usefulness, and improved its methods of sanitary treatment; its resources and its provisions for the care and comfort of its patients have been greatly enlarged; it has thus acquired new titles to public confidence and esteem, and has secured new friends in the new generation which has arisen since it was founded.

The personal qualities of Dr. Sawyer were such as did not fail to endear him very strongly to those who were associated with him in the care of the Hospital. His manners were gentle and winning; his character was marked by singular modesty, united with great firmness of purpose, by rare good judgment, by manly independence, by self-denying benevolence and by unfailing devotion to the duties he was called to perform. He has died at a moment the most unexpected, of which those who loved him had received no premonition, and when his plans were broadest and his hopes were highest, in the full meridian of his usefulness and his renown. The trustees mourn his loss not alone as the loss of an accomplished and faithful superintendent, eminent in his profession and honored in the community, but also as the loss of a personal friend, endeared to them by the graces which adorned his character and by the noble and generous services which filled his daily life.

To the above tribute there needs no addition, for it expresses perfectly the feeling of those who professionally knew Dr. Sawyer best. He is reported by a relative, Rev. Augustus Woodbury, of Providence, R. I., to have been descended from John Woodbury, an associated of Roger Conant, who was made a freeman in Massachusetts in 1631. His brother William was also made a freeman a few years later, the one settling in North Beverly, and the other in Beverly Farms. Dr. Sawyer's maternal uncle, Henry P. Woodbury, lived in Beverly, which is very near to Danvers, the place of Dr. Sawyer's birth. This Puritan descent explains many prominent features of Dr. Sawyer's character, aud as his friends remember those calm,

sharply cut features, the straight hair, the clear eye, the compressed lips, the perfect self-command, they have only to picture him as clad in the garb of that earlier day, and they can see at once personified in himself, his ancestor, the old Massachusetts freeman of 1631. It was that very inherited nature which made Dr. Sawyer so quiet, so modest, so diffident in all things regarding himself. Carried almost to stoicism, unless it was the desire not to alarm his wife, of whom he was tenderly fond, it was this which made him refrain from speaking of the violence he had received to his throat at a patient's hands, just prior to his final illness. His last words to his friend Dr. Storer, on leaving Newport to return home, several hours after his injury, which was still causing him pain, were with reference to the great neglect of the authorities of that city in having neither an ambulance for transporting violently insane patients, nor a proper cell either at the police station or jail, or even at the Newport Hospital, for their temporary reception, and he promised to immediately bring before the Trustees of the Butler Hospital, it being a project which had already occupied his mind, the need of a branch of their own institution in the southern portion of Rhode Island, near Newport, to avoid the present difficulties of the removal of cases from that city to Providence.

Dr. Sawyer's was a well-rounded character. True ever to his convictions of duty, he gained the loving respects of his patients, his official co-laborers, and his professional friends. His life was a short one, indeed, counting years, but it was rich in results. The deep wound that his loss has brought to the Rhode Island Medical Society is already seen, in the words of its resolutions of condolence, to have been inflicted only that it might benefit, for not Providence physicians

merely but those of the whole State have been forced to appreciate (as they might not so clearly perhaps have done had Dr. Sawyer's life been spared) what a noble brother they had among them; what a manly associate; and what an example worthy of their best efforts to emulate has been taken from their midst.

*

DR. JOSHUA HUSBAND WORTHINGTON.

Dr. Joshua Husband Worthington, a well known retired phsyician, died at his residence, No. 11 East Penn street, Germantown, December 27, in the sixty-ninth year of his age. He was born in Hartford county, Maryland, on August 8, 1817, being the son of a prominent member of the Society of Friends. He received his medical education at the Jefferson Medical College, where he graduated in 1838. For four years thereafter he practised in his native place, and then came to Philadelphia where he had since resided. In 1842, or shortly after his location here, he was made Resident Physician of the Friends Asylum near Frankford, and became its Superintendent in 1850, filling that office until 1877, when he resigned and was succeeded by the present Superintendent, Dr. John C. Hall. He was a member of the Association of Medical Superintendents of American Institutions for the Insane, and a prominent member of the American Medical Association, and was identified with all the important, local and State associations, serving as Vice-President of the State Medical Society in 1859. He became distinguished in his treatment and studies of insanity, and his contributions to the literature of the profession were many and valuable. In connection with Dr. Charles Evans, from 1843 to 1850, he published eight reports of the Frankford Asylum, and after that, for some years, be-

came their sole publisher. Since his retirement from that institution he had been living quietly at his home in Germantown. In 1860, he married Mary W. Kimber, of this city, and after her death, Sarah, daughter of Stacy B. Collins of New York.

DR. T. R. H. SMITH.

As we go to press we learn with great regret of the death of Dr. T. R. H. Smith, of the Fulton Lunatic Asylum, Missouri. He was buried on Christmas day. A further notice will appear in our next issue.

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